



## **ESP/PM/MP3**

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### **PROCEDURE FOR**

**THE INSTALLATION, EXCHANGE, RELOCATION  
OR REMOVAL OF LOW-PRESSURE GAS  
METERS NOT EXCEEDING 6 M<sup>3</sup>/H CAPACITY.**

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**October 2022**

## Document and version control

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### Audience

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

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## FOREWORD

This Management Procedure is approved by the Operations & Safety Manager for use by managers and all Engineers who carry out work under the instruction of ESP Utilities Group Ltd (ESPUG).

ESPUG 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 ESPUG's Register of Safety and Engineering documents.

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

## 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.

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# MANAGEMENT PROCEDURE FOR

## THE INSTALLATION, EXCHANGE, RELOCATION OR REMOVAL OF LOW-PRESSURE GAS METERS NOT EXCEEDING 6 M<sup>3</sup>/H

### INTRODUCTION

Registration with Retail Energy Code Company (REC) as an Approved Meter Installer (AMI) places obligations on persons and organisations undertaking meter work. Working on meter installations, in accordance with this procedure ESP/PM/MP3 will ensure ESP compliance with both the Code of Practice for Meter Asset Managers and Approved Meter Installers work Category 1 and BS6400:2016 Part 1 Low Pressure 2nd family gases. AMIs should have their own procedures, accepted and validated as part of their REC AMI registration process.

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 and with BS 6400: 2016 Part 1.

Meters installed in accordance with this procedure will meet the requirements of ESPUG's Gas Transporters requirements for gas measurement systems connected to the ESPUG networks.

The labels shown in this document are examples of those typically used. In some circumstances, multipurpose labels may be used.

All pressure references in this document refer to gauge pressure.

### 1. SCOPE

1.1 This ESP/PM/MP3 document details procedures for the safe installation, exchange, relocation, or removal of low-pressure primary gas meters not exceeding 6m<sup>3</sup>/h badged capacity, installed in domestic, industrial, or commercial premises, when gas is supplied to the emergency control at a pressure not exceeding 75mbar.

### 2. REFERENCES

2.1 This Procedure makes references to documents listed in ESP/LEG/MET1 for Legal and other requirements, with Appendix A further clarifying references used within this document. Unless otherwise specified the latest editions of the documents apply, including all amendments and revisions.

### 3. DEFINITIONS

3.1 The requirements and definitions applying to this Metering Procedure are as listed in ESP/DEF/MET1, with further definitions particular to this document listed in Appendix B.

## **4. RESPONSIBILITIES**

### **4.1 ESPUG (ES Pipelines Limited - The Gas Transporter)**

ES Pipelines Limited (the gas transporter) will:

- a) at the request of the shipper, install a service pipe, terminating with an emergency control in an agreed compliant position. The termination and route of the service will have been agreed with ES Pipelines Limited (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/4 and IGEM/GL/1 for further information).

### **4.2 ESPUG (ES Pipelines Limited – The Gas Transporter)**

ES Pipelines Limited will:

- a) at the request of a shipper, or their authorised Agent, install a meter installation which meets the requirements of this procedure.
- b) at the request of a shipper, or their authorised Agent, exchange a meter installation in accordance with these procedures.
- c) at the request of a shipper or their authorised Agent, 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 compliant location and approved housing for the installation and, where appropriate, other associated equipment in accordance with the requirements of ES Pipelines Limited (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.

*Note: Projected gas consumptions normally mean taking into consideration any capacity increases for the next 12 months only.*

### **4.4 Shipper**

It is the responsibility of the gas shipper to:

- a) identify with the consumer/developer and notify ES Pipelines Limited of the maximum projected peak hourly rate that the service and metering installation will supply.
- b) negotiate with the consumer/developer and ES Pipelines Limited a compliant meter position.
- c) agree with ES Pipelines Limited (the gas transporter) and the consumer/ developer the location, position/route, and termination of

the service so long as this meets the requirements of ESP and IGEM/TD/4.

- d) inform the consumer and ESP 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 in 4.4 of this ESP/ PM/MP3.
- b) where the supplier is not a shipper, ensure that liaison has taken place between the shipper, supplier and ES Pipelines Limited with respect to these responsibilities.
- c) ensure the duties required under the Gas Safety (Installation and Use) Regulations 1998 are taken.

#### **4.6 Utility Infrastructure Provider (UIP) organisation**

4.6.1 The UIP organisation takes on the responsibility of ES Pipelines Limited in 4.4 and 4.5 of this document once a Design has been validated and accepted, and an Asset Adoption Agreement entered into.

4.6.2 As part of the process of taking ownership of the service/main, the self-lay organisation will need to have their design validated and accepted by ES Pipelines Limited. On completion, provided that the service/main has been installed to the design and appropriate industry standards, ES Pipelines Limited will adopt the service/main.

#### **4.7 MCoP**

4.7.1 Compliance with notification process as per items 1.3.3 and 1.3.4 of 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 current Industry and Legislative specifications.

#### **5.2 Sizing of meters**

5.2.1 The total diversified capacity of all appliances supplied by the meter must not exceed 6m<sup>3</sup>/h, and the capacity of any one individual appliance must not exceed 6m<sup>3</sup>/h.

5.2.2 The following method should be used to size a meter.

5.2.3 A diversity factor is given to each type of appliance according to the normal degree of intermittency of use. Diversity factors are detailed in Table 1 below.

5.2.4 To calculate the size of meter required, multiply the maximum input rating of each appliance by its diversity factor, add these figures, convert to mega

joules (MJ), and divide the total by 39 (Typical gross CV of natural gas in MJ/m<sup>3</sup>). An example calculation is shown in Table 2.

**TABLE 1 - Diversity factors of appliances for meter sizing**

APPLIANCE	DIVERSITY FACTOR
Central heating appliances (other than combination Unit heaters)	1
Circulators	1
Combination boilers	0.8
Instantaneous water heaters	0.8
Sink water heaters	0.6
Room heaters	0.6
Wash boilers	0.6
Hotplates	0.6
Ovens	0.6
Cookers	0.4
Refrigerators	0

**TABLE 2 - Example of calculation for meter sizing**

APPLIANCE	HEAT INPUT kW	DIVERSITY FACTOR	LOAD RATING IN kW
Central heating boiler	25.0	x 1.0	= 25.00
Room heater	5.3	x 0.6	= 3.18
Cooker	23.5	x 0.4	= 9.40
<b>Total Diversified Load</b>			<b>= 37.58</b>

Total diversified load rating = 37.58 kW (1 kW = 3.6 MJ/h)

37.5 x 3.6 = 135.29 MJ/h; 135.29 / 39 = 3.46 m<sup>3</sup>/h; therefore, suitable meters are **G4, E6 or U6**.

## 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 with BS 6400:Part1 2016.
- 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 ES Pipelines Limited.
- d) Prior to the installation of a meter, there should be general agreement on its compliant location between the developer/property owner, agent or local authority, the gas supplier and ES Pipelines Limited.
- 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 or the UIP/AMI accepted procedure for this activity.
- g) Care must be taken to ensure that when drilling holes to fit brackets, clips etc., any electrical cables, communication cables, pipework, etc. is 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 valve to ensure a metering pressure of 21mbar (nominal) is achievable. In multi-occupancy buildings there may be an EFV/TCO on the outlet of this ECV (refer to IGEM/G/5 and ESP validated design for confirmation of requirement). The ECV 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 valve which must be sited upstream of any other associated controls, but as close as practicable to the inlet of the meter. In multi-occupancy buildings there may be an EFV/TCO on the outlet of this ECV (refer to IGEM/G/5 and ESP validated design for confirmation of requirement).
- j) The agreed location must allow easy access for inspection, reading of index, operation of the emergency control valve, 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 in a suitable meter housing that gives adequate protection from the weather and/or acts of vandalism.
- n) The meter should 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, landscaping activity, vehicular impact, 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.).
- 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 as detailed in Clause 12 of this document.

## **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 6.1 q) and r) of this document).
- c) does not have a suitable weatherproof location (see 6.1.m), and 6.2.4 of this document).

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. Use ESP/PM/GT1 process for this if required.

### **6.2.2 Suitable locations**

6.2.2.1 The following locations are suitable for gas meter installations:

- a) In a purpose-made compliant meter box outside the building. ESP do not currently accept Semi Concealed Meter Boxes for new sites/services as an acceptable meter box.
- b) In a purpose-made compliant meter compound or compartment outside or inside the building.
- c) In a garage or suitable outbuilding, so long as the agreed bespoke method of entry is acceptable.
- d) Inside the building, so long as the agreed bespoke method of entry is acceptable.
- e) At the boundary of the property, in a suitable enclosure.

*Note: Where an exchange of credit for pre-payment meter is required, it shall be established that the location is suitable for a pre-payment meter (that is, it is readily accessible by the consumer for appending credit to the meter) and that approval of the Gas Supplier has been obtained.*

### **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) In bathrooms.
- f) Where it might be affected by a corrosive atmosphere or liquid.
- g) Where readily combustible material is stored, for example a bin store.
- h) In an unventilated, insecure position.

- 6.2.3.2 If such a location cannot be avoided, mitigating actions should be discussed and agreed with ES Pipelines Ltd. (as the MAM) PRIOR to any meter being installed.

#### **6.2.4 Installations outside buildings**

- 6.2.4.1 External installations for meters must be in compliant housings that give adequate ventilation, security, 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.

Consideration should be given to the positioning of Smart meters, and their ability to communicate with the Home Area Network (HAN), the In-Home Display (IHD), and Wide Area Network (WAN). This consideration should already have been considered by the Developer in their initial energy meter position proposals.

##### **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. Built-in, Unibox, and surface mounted boxes **must** be installed so that they do not bridge damp proof courses.

Examples of purpose-made external meters boxes are:

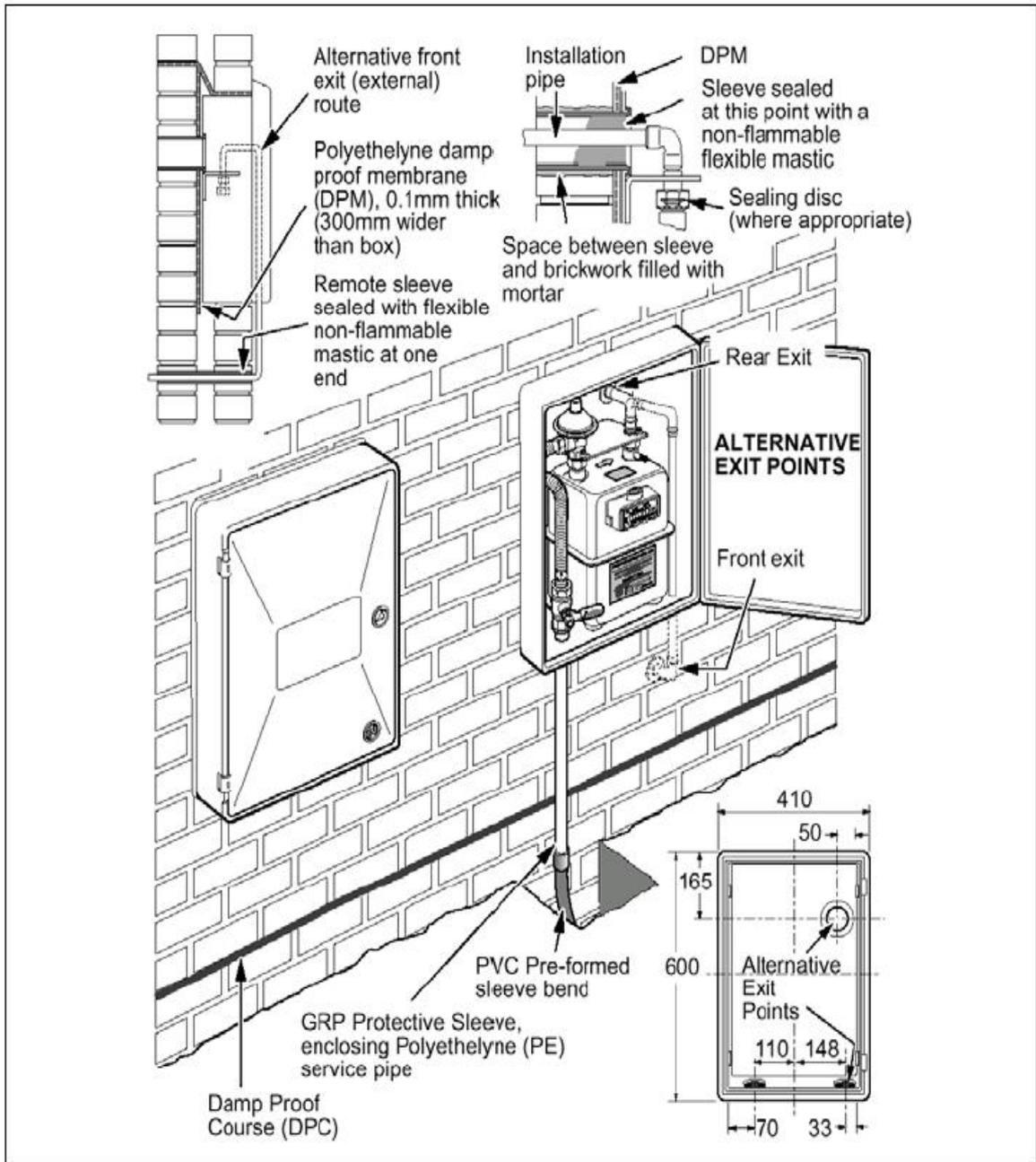
- 1) Built-in (see Figure 1).
- 2) Surface mounted (see Figure 2)
- 3) Semi-concealed (see Figure 3).
  - i) standard semi-concealed box.
  - ii) semi-concealed box (with ETM extension).
- 4) Universal meter box (see Figure 3A)

**PLEASE NOTE ESP AS A GT DO NOT CURRENTLY ACCEPT SCMB'S AS AN APPROVED METER BOX. A "MITRAS UNIBOX" IS THE ONLY ACCEPTABLE ALTERNATIVE (Figure 3A).**

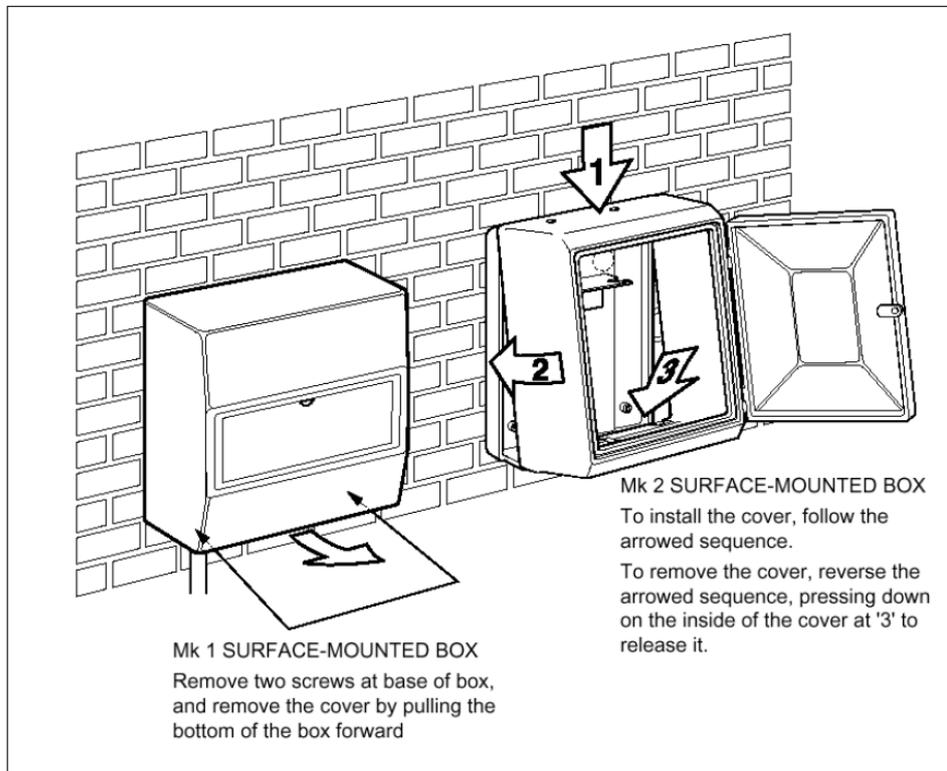
##### **b) Meter compartments**

A meter compartment must be of sufficient size to accommodate the meter and associated controls and must be provided with adequate ventilation. The compartment should be sized in order to minimise the likelihood of its use for storage of other items.

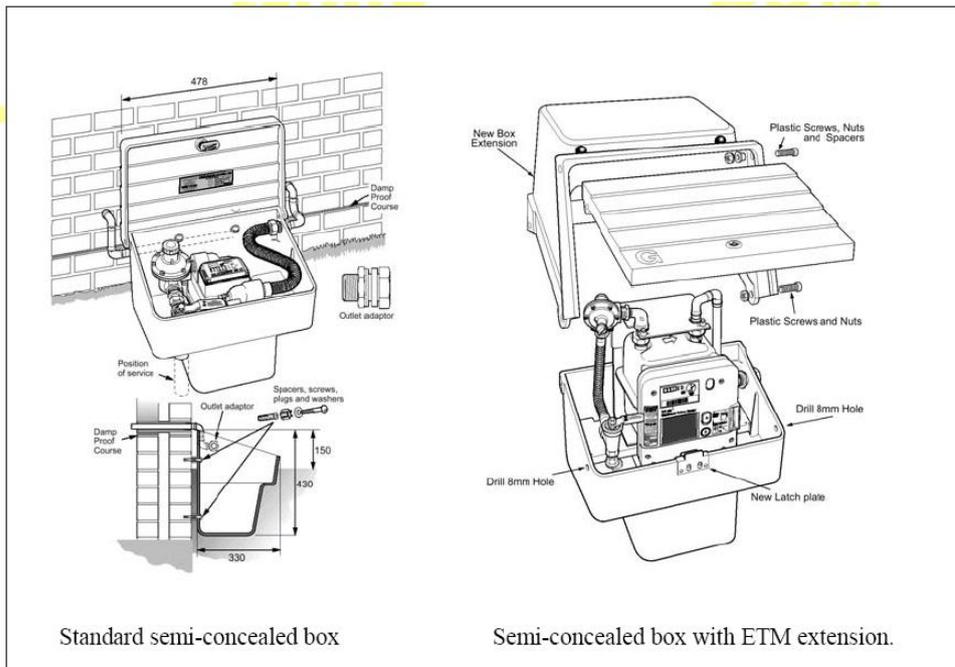
**FIGURE 1 - Built in meter boxes**



**FIGURE 2 - Surface mounted meter boxes**



**FIGURE 3 - Semi-concealed meter boxes (legacy installations only)**



**Figure 3A Universal Meter Box**



## **6.2.5 Installations inside buildings**

6.2.5.1 The meter can be installed inside a garage, a suitable outbuilding or inside the dwelling. As well as meeting the requirements of 6.2.2.1 and Figure 4 of this document, the following requirements 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 properties with 2 or more floors above the ground floor, ES Pipelines must not install the gas meters on or under the stairway, or in any other part of the premises, where the stairway or that part of the building forms the sole means of escape in the event of a fire.

*Note: There are occasions where ES Pipelines Limited is requested to install meters in such locations and presented with various scenarios, to try and put meters in stairwells including putting them in fireproof cupboards. THIS MUST NOT BE DONE.*

*Reference must be made to IGEM/G/5 and Approved Document B (Fire Safety) Volumes 1 & 2, Dwellings and Buildings other than dwellings, latest edition for acceptable meter locations within multi-occupancy and other buildings in relation to means of escape.*

If any doubt exists on determining the sole means of escape, the advice of a Building Control Officer/ Building Responsible Person should be sought.

- 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.

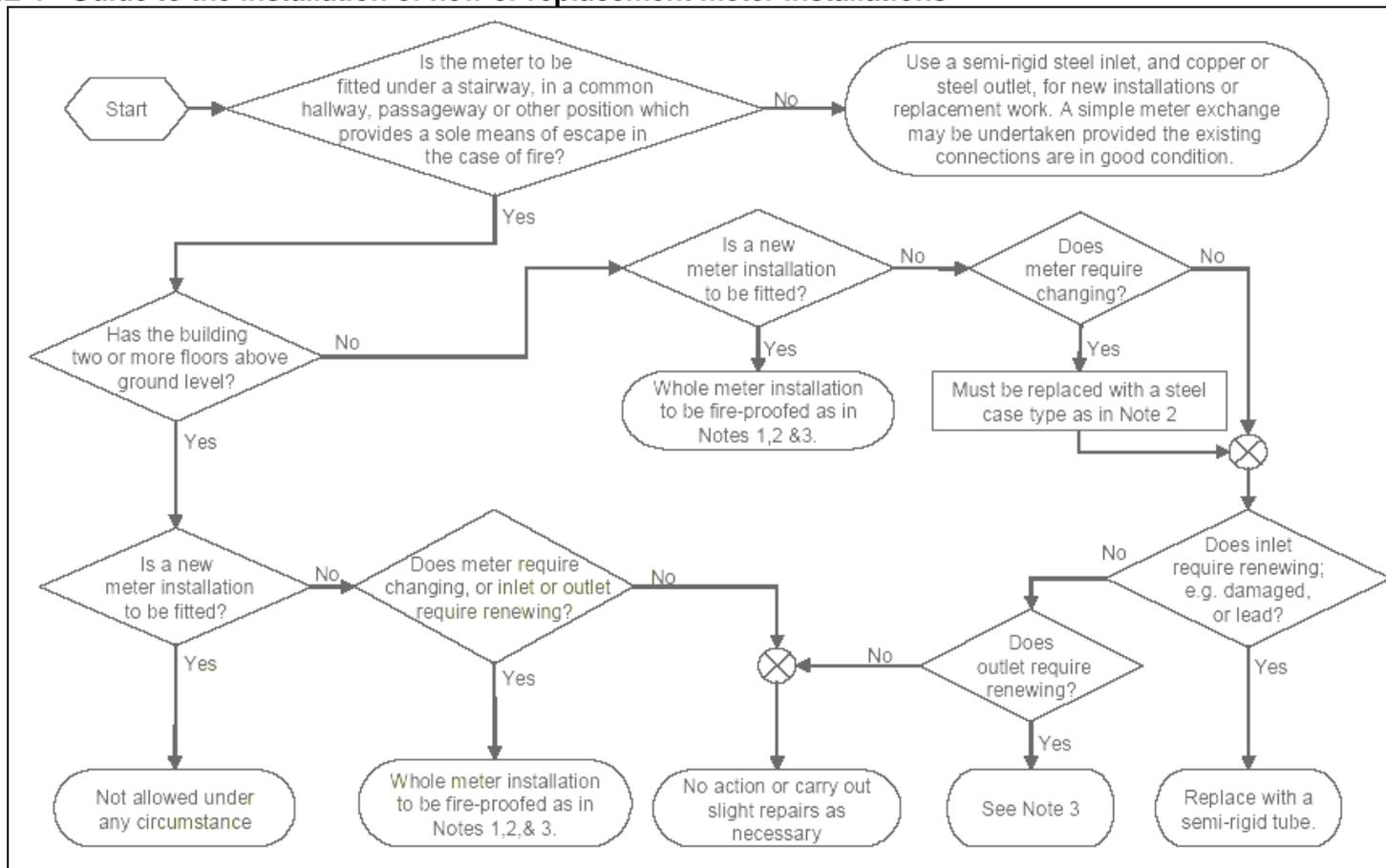
If it is necessary, to install a **replacement** meter on or under a stairway, or in any other part of the premises, where the stairway or that other part of the premises forms the sole means of escape in the event of fire:

- a) the meter must be of fire-resistant construction; or
- b) the meter must be housed in a compartment constructed of materials having a fire resistance of not less than half an hour and which has a door fitted with an automatic self-closing device; or
- c) the pipe immediately upstream of the meter, or meter regulator if fitted, must be provided with a thermal cut-off device which is designed to automatically cut off the gas supply if the temperature of the device exceeds 95°C.

*Note: Situations where a replacement meter is permissible under a stairway, in a hall, passageway, or other position which provides the only means of escape in the event of fire, are considered in Figure 4 of this document*

- iii) If there is any doubt, the job should be referred to the Operations Director of ESPUG Ltd.

**FIGURE 4 - Guide to the installation of new or replacement meter installations**



*Note 1: Inlet – semi-rigid tube*

*Note 2: Meter – Steel Cased G4 / U6 (but not a U6 type marked with label 'SJ' or any DO7 type), E6*

*Note 3 Outlet – (consumer's own responsibility) should be copper or steel on new installations. Existing installations – where repairs are necessary, providing it is within 0.6 m (2 ft) of the meter, ES Pipelines will effect a repair.*

## 7. INSTALLATION

### 7.1 General

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

7.1.2 ES Pipelines Limited owned meters must only be installed by Approved Meter Installers competent persons acting on behalf of ES Pipelines Limited. All meters must carry the emergency notice (see Appendix D, D.2 of this document) and must be handled and transported with care (see Clause 12 of this document). The date the meter was installed must be entered on to an appropriate label fitted to the meter. The exchange/ fix details of the meter must be entered on to an appropriate label fitted to the meter. The 'On/Off' tape must also be attached on, or adjacent to the emergency control (see Figure 7 and Appendix D, D.4 of this document).

**All new installation Smart meters shall be installed in the “dumb” mode and the electricity energy supplier/meter installer shall fully complete the electronic data exchange functionality.**

7.1.3 ES Pipelines Limited will not connect a meter unless normal gas service pressure is available at the service termination at the time of the meter installation works.

7.1.4 ES Pipelines Limited 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 its outlet capped.

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 (see Figure 6). 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/EL1., however this must only be carried out by a person competent to carry out this activity.

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

7.1.9 In addition, when considering the relocation of a meter or meter installation, the feasibility of the proposed new location must be confirmed by ensuring that:

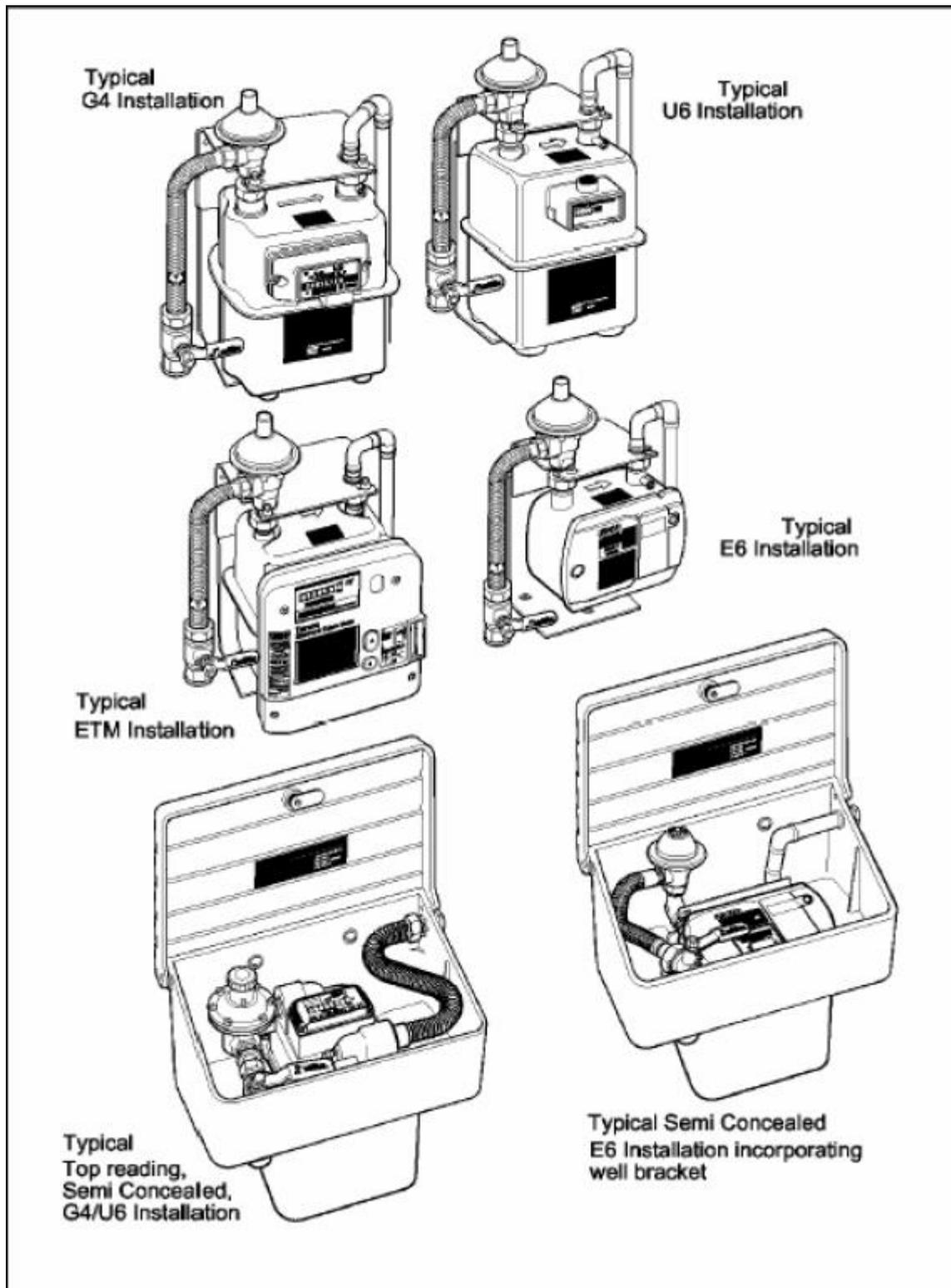
- a) the pressure loss of a primary meter installation must not exceed 4 mbar when the meter is operating at its maximum capacity (this will include any increased pressure loss imposed by additional gas fittings, for example EFVs or TCOs downstream of the ECV).
- b) the pressure loss of the installation pipework must not exceed 1 mbar.
- c) the length of pipework subjected to gas at distribution pressure is kept to a minimum and must not exceed 2 metres within the building.
- d) The service route and termination complies with the GT/IGEM standards.

- 7.1.10 Before commencing the installation of the meter, a visual inspection must be made to ensure the meter shows no signs of damage and that the official seals/badges are present and intact. If either of these defects are noted, then the meter must not be fitted and must be returned to the manufacturer/supplier of the meter.
- 7.1.11 Where a service pipe supplies more than one primary meter in the same premises, but in a different location, a notice indicating this must be fixed to the inlet of the primary meters.
- 7.1.12 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 of the secondary meter to provide a line diagram at or near to the primary meter indicating the position of any secondary meters. Where secondary meters are installed, a label/diagram must be fixed to the inlet of the primary meter. The label/ line diagram indicating the positions must state the location of the primary meter. **It should be noted that ES Pipelines Limited do not install, own, or manage any secondary meters.**
- 7.1.13 Whenever a meter is installed, the standard gas tightness test and purge procedure must be undertaken in accordance with IGEM/UP/1B. If an escape on the installation 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. ES Pipelines Limited's procedure for dealing with 'Unsafe Situations' are contained in ESP/PM/MP2.

#### **7.1.14 Typical installations**

- 7.1.14.1 Typical installations showing the example component parts for domestic meter installations are shown in Figure 5 of this document.
- 7.1.14.2 Except for certain **existing** legacy semi-concealed meter installations, meter installations must include only one flexible connection. Filtration within the installation is not normally required. The meter is always securely fixed to a purpose-designed bracket with shear bolts and washers between the bracket and the meter inlet and outlet connections.
- 7.1.14.3 All meter installations must be fitted with the appropriate warning labels.

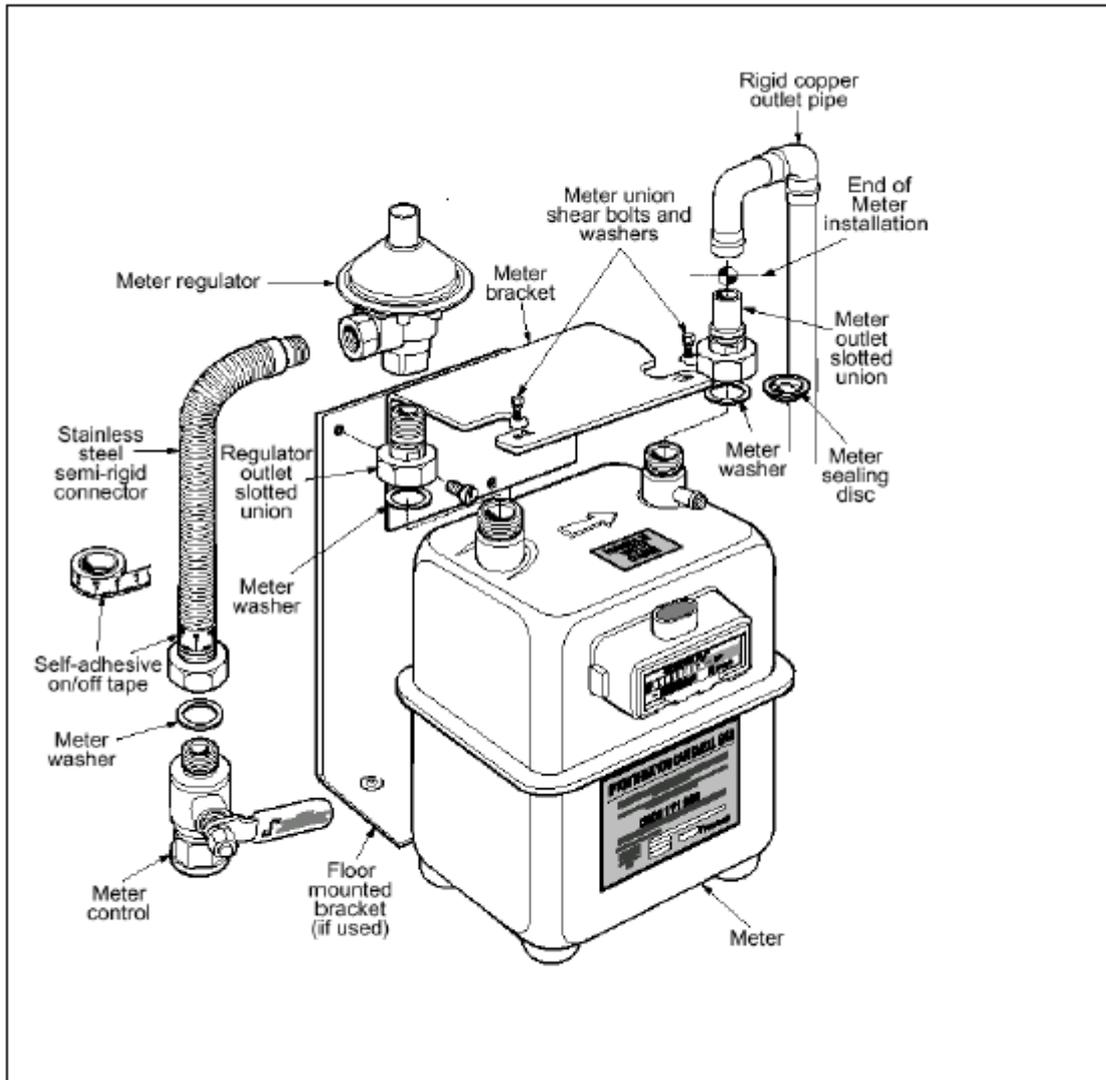
**FIGURE 5 – Typical Domestic meter installations**



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

- 7.1.15.1 The meter installation must be fitted in accordance with one of the standard layouts shown in 7.1.14 of this document, with the outlet of the meter sealed with an appropriate fitting.
- 7.1.15.2 On completion of the meter installation the gas tightness test and purge procedure must be carried out in accordance with IGEM/UP/1B. The meter Regulator must be checked in accordance with Clause 8 of this document.

**FIGURE 6 – Typical New meter fix**



- 7.1.15.3 The emergency control must then be turned off and the appropriate warning labels attached (Appendix D, D.3, D4, D.5 and D.6 of this document shows typical labels).
- 7.1.15.4 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).

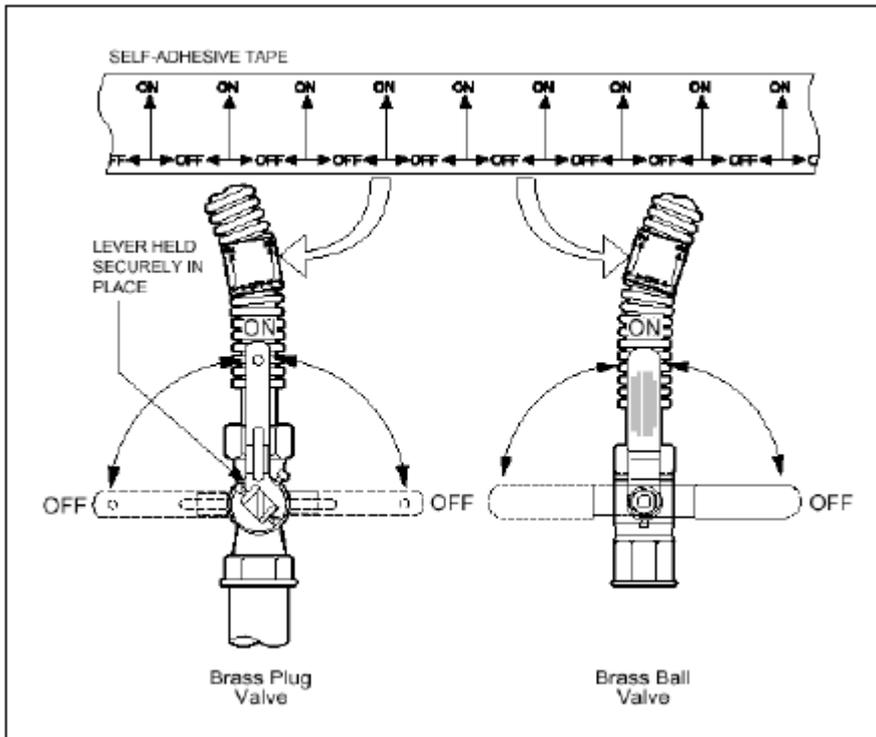
### **7.1.16 Fit meter installation - connect outlet (exchange meter)**

- 7.1.16.1 When required to connect the meter outlet to the existing installation pipework, prior to installation of the replacement meter a survey must be undertaken to determine what appliances are fitted, noting those which are in use. Any new appliances (i.e., those that have been fitted but have not been commissioned and are not in use) must be disconnected and capped prior to commencing the replacement meter installation.
- 7.1.16.2 **ESPUG do not commission new appliances.**
- 7.1.16.3 The outlet of the meter must be connected to the internal installation pipework with an appropriate fitting.
- 7.1.16.4 On completion of the meter installation the gas tightness test and purge procedure must be carried out in accordance with IGEM/UP/1B. 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.
- 7.1.16.5 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.
- 7.1.16.6 The appropriate warning labels must then be attached (Appendix E, E.3 and E.4 of this document show typical labels).
- 7.1.16.7 On completion of the meter work, it is essential that meter details are clearly and accurately recorded on the appropriate ES Pipelines Limited systems. Where a meter is exchanged, details for both meters must be recorded.

## **7.2 Emergency and meter control**

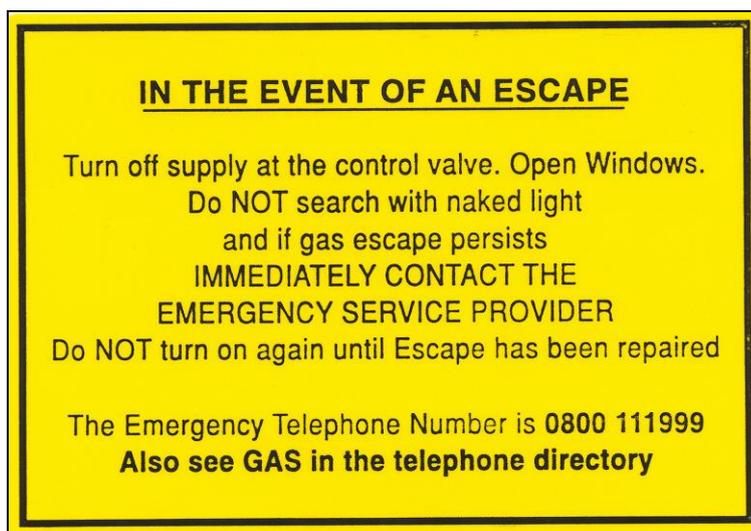
- 7.2.1 The Gas Safety (Installation and Use) Regulations 1998 require an appropriately sited 'emergency control', which is accessible, clearly labelled (see Figure 7 and Appendix D, D.6 of this document) and intended for use by the consumer, for shutting off the supply of gas in an emergency.
- 7.2.2 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'.*
- 7.2.3 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 valve' (ECV).
- 7.2.4 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.

FIGURE 7 - Emergency control



- 7.2.5 Where the meter installation is remote from the dwelling or it is not readily accessible to the consumer, then a separate (additional) emergency control valve (AECV) is required as near as practicable to the point where the gas supply enters the dwelling. A suitable notice/label must be displayed adjacent to any (additional) emergency control valve 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 valve 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.
- 7.2.6 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.
- 7.2.7 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 Appendix D, D.6 of this document).

**FIGURE 8 - Emergency Warning label**



- 7.2.8 The meter installer must verify that the control valve key/lever can be operated freely to 'open' or 'shut' the valve.
- 7.2.9 Where the outlet union of an emergency or meter control valve is disconnected and is not to be reconnected immediately, the outlet of this valve must be sealed with an appropriate fitting and label. The ES Pipelines Limited system must be updated accordingly. The installation pipe must be sealed with an appropriate fitting. The gas supplier should carry out his duties under Regulation 16 of the Gas Safety (Installation and Use) Regulations 1998 by advising the GT where the meter has not been reinstalled after 12 months.
- 7.2.10 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/1B.
- 7.2.11 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.

### **7.3 Installing new meters**

- 7.3.1 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.

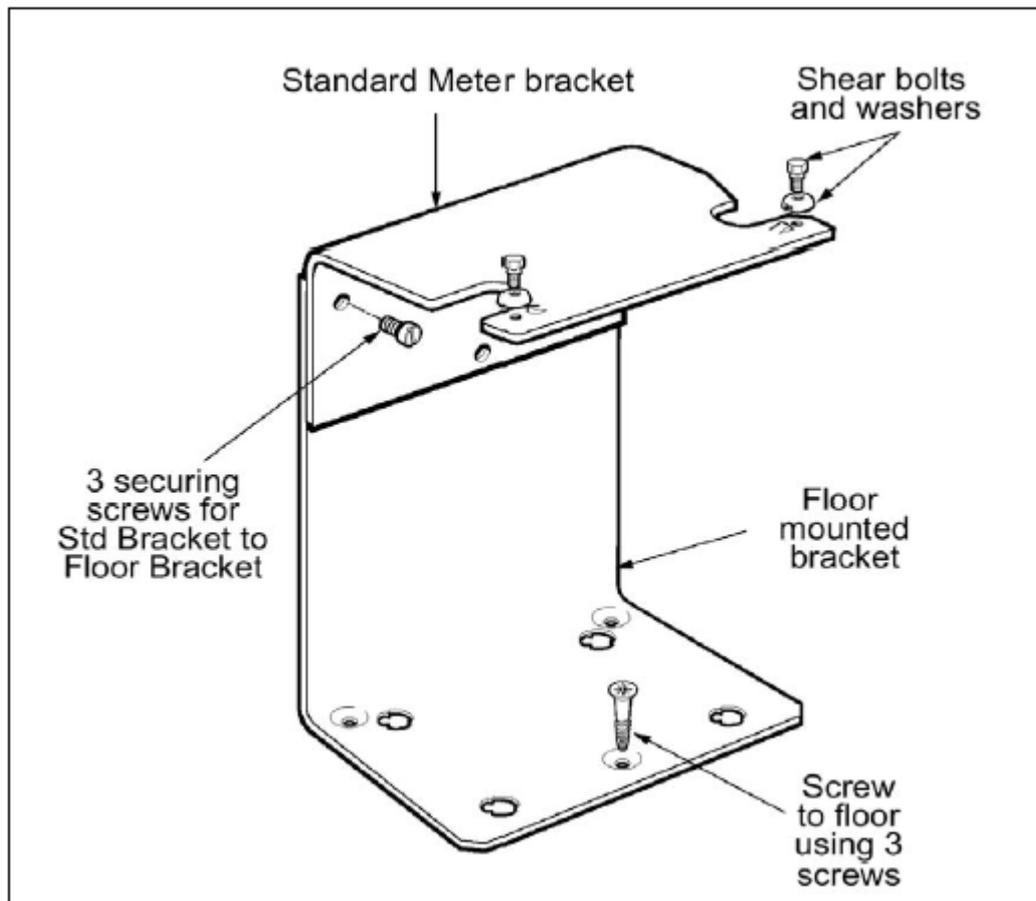
### **7.3.2 New meter installations incorporating a diaphragm meter.**

- 7.3.2.1 There are two types of diaphragm meter, those installed in standard installations and those used only for semi-concealed applications. The G4 meter (metric) replaces the U6 (imperial) both having a capacity of 6m<sup>3</sup>/h. The G4 meter measures the volume of gas in cubic metres and incorporates a test drum which records the volume of gas down to 1/1000 m<sup>3</sup> (1litre).
- 7.3.2.2 The test drum is used to measure purge volumes. Reference should be made to IGEM/UP/1B to determine the purge volume.
- 7.3.2.3 Special G4 top viewing index (TVI) and U6 (TVI) meters are available, specifically designed and approved for use in semi-concealed applications. These meters must not be installed in any other application.
- 7.3.2.4 The standard installations are shown in Figure 5 of this document.
- 7.3.2.5 The installation is undertaken in the following order:
  - a) Fit the meter in accordance with the appropriate installation in Figure 5 of this document.
  - b) Test the installation for gas tightness and purge as described in IGEM/UP/1B.
  - c) Check the meter regulator in accordance with Clause 8 of this document.
  - d) Commission the installation in accordance with Clause 9 of this document.
  - e) Record the meter serial number and all other required data.

### **7.4 Exchange of meters (ESP owned meters only, ESP do not exchange other meters)**

- 7.4.1 Prior to installing a replacement meter (at the request of the gas supplier, for emergency purposes, etc.), checks must be undertaken to ensure the siting of the meter installation meets the requirements of Clause 6, and the installation will meet the requirements of 7.1 of this document, and the emergency or meter control meets the requirements of 7.2 of this document.
- 7.4.2 Prior to commencing the meter exchange, a gas tightness test must be carried out (see IGEM/UP/1B).
- 7.4.3 A visual inspection of the installation must be undertaken. Any defective components within the meter installation must be replaced.
- 7.4.4 After the meter has been exchanged, the installation must be tested for gas tightness and purged in accordance with IGEM/UP/1B. The meter regulator must be checked in accordance with Clause 8 of this document.
- 7.4.5 The E6 ultrasonic meter incorporates self-checking diagnostics which indicate the 'health' of the meter. When the diagnostics detect an 'event', a letter (flag) will be displayed on the meter index.
- 7.4.6 If a flag is displayed, the meter must be replaced.
- 7.4.7 If an unsafe situation is suspected, then refer to ESP/PM/MP2. If theft of gas is suspected, then the ESP Theft of Gas Procedure must be followed (ESP/PM/TOG).

**FIGURE 9 – Standard and floor mounted meter brackets**



#### **7.4.9 Exchanging an ultrasonic meter for diaphragm meter**

- a) Prior to undertaking meter work any exposed metalwork must be checked with an approved 'Volt-Stick' type instrument, and this check recorded, in accordance with ESP/PM/EL2.
- b) Fit a temporary continuity bond in accordance with ESP/PM/EL1.
- c) Remove the existing meter.
- d) Record the existing meter details and any flags in accordance with procedures.
- e) Fit the meter in accordance with Figure 5 of this document. For an internal installation fit the meter using the standard bracket, with or without the floor mounted bracket (see Figure 9 of this document). If using the standard bracket, remember to leave enough space (at least 310mm) below the bracket, in case the meter needs to be replaced with an ETM at a later date.
- f) For installations in built-in and surface mounted boxes the meter must be fitted on the standard bracket, which is supplied as part of the box.
- g) For installations in semi-concealed boxes the whole installation will require upgrading to allow the correct meter to be installed.
- h) Remove the temporary continuity bond.
- i) Test the installation for gas tightness and carry out the purging procedure described in IGEM/UP/1B.
- j) Check the meter regulator in accordance with Clause 8 of this document.
- k) Record the serial number and all other required data for the new meter.

#### 7.4.10 Exchanging a diaphragm meter for a diaphragm meter

- a) Prior to undertaking meter work any exposed metalwork must be checked with an approved 'Volt-Stick' type instrument, and this check recorded, in accordance with ESP/PM/EL2.
- b) Fit a temporary continuity bond. Remove the existing meter.
- c) Record the existing meter details.
- d) Install the meter as described in these Procedures. For internal installations fit the meter using either the standard or floor mounted meter bracket (Figure 9 of this document). If using the standard bracket remember to leave enough space (at least 310mm) below the bracket in case the meter needs to be replaced with an ETM at a later date.
- e) For installations in built-in and surface mounted boxes the meter must be fitted on the standard meter bracket, which is part of the box.
- f) Remove the temporary continuity bond.
- g) Test the installation for gas tightness and carry out the purging procedure described in IGEM/UP/1B.
- h) Check the meter regulator in accordance with Clause 8 of this document.
- i) Record the serial number and all other required data for the new meter.

### 8. CHECKING AND ADJUSTING THE METER REGULATOR

Meter regulators, purchased by ESPUG, are set at the factory to deliver 21 mbar with an inlet pressure of 30 mbar and a gas flow rate of 3.5m<sup>3</sup>/h. When checking a regulator setting on site, it is important that a gas flow of at least 0.5 m<sup>3</sup>/h is used, as low flows will give an inaccurate reading.

*Note: The performance of the meter regulator is dependent on both the inlet pressure and the flow rate.*

#### 8.1 Checking the regulator setting

The procedure for checking the regulator setting 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 29 mbar; if it does then the regulator must be replaced. Light sufficient appliances, or where there are no appliances connected allow gas to flow safely through the meter to achieve a gas rate of at least 0.5m<sup>3</sup>/h but preferably nearer to 3m<sup>3</sup>/h, see Table 3 of this document (use the highest rating available). Observe the gauge reading, which will now indicate working pressure.

If the working pressure reading is not 21mbar  $\pm$ 2mbar, the regulator must be adjusted in accordance with 8.2 of this document or replaced.

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

## 8.2 Adjusting the regulator setting

The procedure for adjusting the regulator setting is as follows:

- a) Light sufficient appliances, or where there are no appliances connected allow gas to flow safely through the meter to achieve a gas rate of at least 0.5m<sup>3</sup>/h but preferably nearer to 3m<sup>3</sup>/h. Remove the seal and cap from the regulator and then adjust the loading screw until 21mbar is obtained on the 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 19mbar cannot be achieved because of low supply pressures, further advice should be sought. If a metering pressure above 15mbar cannot be achieved, the meter installation must be temporarily isolated until normal supply pressures are restored.

**TABLE 3 - Appliance rates for meter regulator setting and performance**

APPLIANCE	GAS RATE	APPLIANCE	GAS RATE
Gas fire	Full rate	Gas cooker	3 burners full rate
Flueless heater	Full rate	Instantaneous water heater	Full rate
Central heating boiler	Full rate	Storage water heater	Full rate
Warm air unit	Full rate	Hotplate boiling ring(s)	Full rate
Circulator	Full rate	Balanced flue convector heater	Full rate

## 9. TESTING FOR GAS TIGHTNESS, PURGING & APPLIANCE COMMISSIONING

**Prior to making gas available, the installation shall be tested for gas tightness and purged in accordance with IGEM/UP/1B.**

### 9.1 Commissioning of the meter installation Regulator

ESPUG's procedures have been developed to take account of Industry standards, legislation, customer-specific requirements and the Code of Practice for Meter Asset Managers and Approved Meter Installers (MCoP).

9.1.1 The installer shall ensure the following.

- a) The regulator gives an operating pressure at the outlet of the meter of between 19mbar and 23mbar at corresponding flow rates between 6m<sup>3</sup>/h and 0.5m<sup>3</sup>/h. If the pressure is outside this range a REC approved meter installer (AMI) shall follow the procedure in 9.1.2., or their own approved, documented procedure.

*Note: Regulation 14(6) of the Gas Safety (Installation and Use) Regulations 1998 [2] 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 authorization from the transporter to act on the transporter's behalf.*

- b) The regulator locks up at a pressure not exceeding 30mbar, with no flow through the installation.

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

*Note on 9.1.1: In order to achieve a nominal pressure of 21mbar at the outlet of the meter, meter regulators conforming to IGEM/GM/PRS/3 are factory set to deliver a pressure at the outlet of 22mbar  $\pm$  0.5mbar with a pressure at the inlet of the regulator of 30mbar at a gas flow rate of 3.5 m<sup>3</sup>/h. When checking a meter regulator on site, it is important that a sufficient gas flow rate is obtained either by operating the largest connected appliance or by using a device that allows a flow rate of at least 0.5 m<sup>3</sup>/h. Guidance on the gas flow rate at which an appliance should be operated to check the regulator is given in Table 3.*

*At low flow rates the operating pressure can tend towards 23mbar and at high flows towards 19mbar. An operating pressure at the outlet of the regulator of less than 19mbar should be investigated to determine the problem.*

- 9.1.2 Sufficient appliances shall be lit to achieve a gas rate of at least 0.5m<sup>3</sup>/h but preferably nearer to 3m<sup>3</sup>/h. An AMI shall remove the seal and adjust the regulator until the pressure gauge reads 21mbar (see Table 3).

*Note on 9.1.2: If gas appliances are not installed at the time of making adjustments to the regulator, it may be appropriate to use an orifice to provide at least 0.5 m<sup>3</sup>/h. If this method is used, great care should be taken to ensure that any gas is vented to atmosphere in a safe manner. If the regulator can only be adjusted to give pressures below the required outlet pressure, the inlet pressure to the meter installation should be investigated further, prior to replacement of the regulator.*

- 9.1.3 Following any adjustment by an AMI, the regulator shall be sealed (to prevent unauthorised 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 all other required data 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 valve must be tested for gas tightness and purged in accordance with IGEM/UP/1B.

- 9.3.2 All pressure test equipment shall be fit for purpose and if appropriate 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 ESPUG 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. **ESPUG do 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 the 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 (See Appendix E, E.2 of this document).
- 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 (see Appendix E, E.3 of this document).

## **10. METER SEALING**

### **10.1 Temporary termination for bad debt or for contractual reasons**

- 10.1.1 ES Pipelines Limited 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 ES Pipelines Limited 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 a emergency control locking/disabling device.
- 10.1.4 Meter details (number, size and index reading including the status of the supply point) and all other required data 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 restore 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/1B.

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**

The procedure for the removal of a meter at the request of the gas supplier (or vary occasionally the end user) is as detailed in 7.4 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 and labelled appropriately.

### **11.1 General procedure**

- 11.1.1 Where a primary meter is removed and is not forthwith reinstalled or exchanged for another meter, then the emergency control valve and the installation pipework must be capped with an appropriate fitting and labelled accordingly. The emergency control must also 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) and all other required data must be clearly and accurately recorded on the appropriate ESPUG's System(s). The removed meter installation must not be left on the premises but retained and disposed of in accordance with ESPUG procedures.
- 11.1.2 The ESPUG System must be updated accordingly. The gas supplier should carry out his duties under Regulation 16 of the Gas Safety (Installation and Use) Regulations 1998 by advising the GT where the meter has not been reinstalled after 12 months.
- 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.

**In all cases should the meter not be refitted within a period of 12 months, the procedure detailed within ESP/CoS/1 IGT Meter removal requests GS(I&U)R requirements.**

11.1.5 Where meters are removed from multi-occupancy premises the following action must be taken:

a) Common riser(s) - meters with emergency control only:

- i) Seal the outlet of the emergency control with an appropriate fitting.
- ii) Cap, plug or seal the internal installation pipework.
- iii) Mark the service pipe at the meter position with yellow 'GAS' tape.
- iv) Fit seal to emergency control to prevent unauthorised use of gas.
- v) Update ESPUG records systems accordingly.

b) Common riser(s) with additional isolation valve fitted in the individual lateral.

- i) Seal the outlet of the emergency control with an appropriate fitting.
- ii) Cap, plug or seal the internal installation pipe.
- iii) Mark the service pipe at the meter position with yellow 'GAS' tape.
- iv) Fit seal to emergency control to prevent unauthorised use of gas.
- v) Update the appropriate ESPUG Systems accordingly.

In all cases should the meter not be refitted within a period of 12 months, the procedure detailed within ESP/CoS/1 IGT Meter removal requests GS(I&U)R requirements.

11.1.6 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, or where a proprietary steel service entry is used an insulation joint is fitted immediately it enters the premises.

## **12. HANDLING AND TRANSPORTING OF METERS (see also ESP/MP/MH2)**

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 Semi-concealed, E6 meters and electronic token meters are supplied in protective packaging. They must not be removed until the time of installation. Whenever practicable, these meters should always be contained and carried in their protective 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 UK Office for Product Safety and Standards contracted testing laboratory for testing purposes. The disputed meter must be placed in a container specifically made for the purpose, to ensure that it

arrives at the laboratory 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.

*Note: Where an E6 meter is being exchanged for an accuracy test, the meter data must be downloaded prior to removal using an approved device, e.g., a Diagnostic Data Reader (DDR). The battery may be removed prior to transit as this does not affect the registration of the meter.*

### **13. MAINTENANCE PROCEDURES**

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

## APPENDIX A – REFERENCES

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

### A.1 STATUTES AND REGULATIONS

Approved Document B (Fire Safety) 2019 Vol 1 and Vol 2.

### A.2 BRITISH STANDARDS

BS6400-1 Specification for the installation, exchange, relocation and removal of domestic-sized gas meters (2nd and 3rd family gases).  
Part 1. Low Pressure 2nd family gases

### A.3 COMPANY 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

ESP/PM/MP1 Dealing with gas escapes during meter work

ESP/PM/MP2 Unsafe situations

ESP/PM/TOG1 Theft of Gas Procedure

ESP/PM/EL1 Electrical Safety at Consumers Premises

ESP/PM/EL2 Procedure for Volt-stick testing at Consumers Premises

ESP/PM/MP/MH2 Safe and Secure Handling of meters

### A.4 IGEN DOCUMENTS (latest edition)

IGEM/TD/4 PE and steel gas services and service pipework

IGEM/GL/1 Planning of Gas Distribution Systems Operating at Pressures Not Exceeding 7 bar

IGEM/UP/1B Tightness testing and direct purging of small Natural Gas installations

IGEM/G/11 Gas Industry Unsafe Situations procedure

IGEM/GM/PRS/3 Meter regulators for Gas Flow Rates not exceeding 6m<sup>3</sup>/hr and inlet pressure not exceeding 75mbar

## 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 valve) and terminates at the outlet connection of the meter.

**Smart Metering System** has the meaning given to it in the Gas and Electricity Supply License. It is comprised of the system components required to deliver Smart functionality: meter, WAN, HAN and IHD where provided.

### B.2 METERS

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

**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. U6 or G4.

**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.

**ultrasonic meter** meter that infers the volume of gas passing through it by means of the behaviour of an ultrasonic beam, e.g., E6.

### 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. The mechanical and electronic indexes are synchronized at the time of manufacture or meter refurbishment.

**measuring unit** the measuring part of either a G4 (metric) or U6 (imperial) unit constructed diaphragm meter.

#### **B.4 ANCILLARY EQUIPMENT**

**appropriate fitting** fitting which has been designed for the purpose of effecting a gas-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** 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 valve to prevent unauthorised use of gas.

**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 by authorised persons only to shut off the supply of gas to the premises.

Note: This fitting can also act as the Inlet Isolation Valve (IIV) for Multi-occupancy Buildings (MOB), refer to IGEM/G/5.

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

**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, from which a meter can be suspended.

**meter clamp** device which clamps and locks around the body of a emergency control valve 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 valve'.*

<b>meter filter</b>	filter fitted between the emergency control and the meter.
<b>meter sealing disc</b>	metallic disc inserted between gas fittings to form a gas tight closure of the gas way.
<b>pressure test point</b>	fitting provided for the temporary connection of a pressure gauge.
<b>semi-rigid connector</b>	stainless-steel tube formed with annular corrugations and having factory - fitted end connections.
<b>Service valve</b>	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
<b>sleeve</b>	duct, tube or pipe embedded in the structure through which a pipe passes or will pass.
<b>spin-cap</b>	sealing device for fitting to the operating spindle or outlet of an emergency control that 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 ESPUG.*

## **B.5 OTHER**

<b>adequate ventilation</b>	sufficient ventilation to ensure that any minor escape of gas does not build up to an explosive mixture.
<b>developer</b>	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.
<b>gas tightness test</b>	method of verifying that gas fittings are gas tight.  <i>Note: This has previously been referred to as 'gas soundness test'.</i>
<b>lock-up pressure</b>	outlet pressure at which the meter regulator shuts off completely, reducing the flowrate to zero.
<b>meter owner</b>	responsible authority owning the meter and/or meter installation.
<b>meter operator</b>	company that works on behalf of the meter owner to install, replace, repair or maintain the meter and/or meter installation.
<b>meter rating</b>	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 mains and services on behalf of a developer, consumer or 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 DOMESTIC SIZED GAS SUPPLY METERS**

### **C.1 SCOPE**

Data recording forms have been developed for completion by operational contractors who are carrying out meter works on behalf of ES Pipelines Limited. 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 ES Pipelines Limited. See ESP MW for administrative procedures.

Where requested, ESP can provide an acceptable Meter fit record form, ESP Meter Form. An electronic version of this Form can also be provided.

## APPENDIX D - DOMESTIC METER LABELS (STATUTORY AND NON-STATUTORY)

### D.1 INTRODUCTION

This Appendix will identify labels, statutory or non-statutory, that ESPUG, as the Meter Asset Manager (MAM) is required to attach to a meter installation as a result of legislation including The Gas Safety (Installation & Use) Regulations 1998.

It is a statutory requirement to prominently display warning notices (labels) of a durable form when gas meters are installed. ESPUG has established a meter supply framework with a meter provider company which supplies all necessary labels with the appropriate kit, when ordered direct. It is ESPUG's preference that this framework agreement is used, however where UIPs' resource meters via a different meter provider they must ensure the labels are fitted.

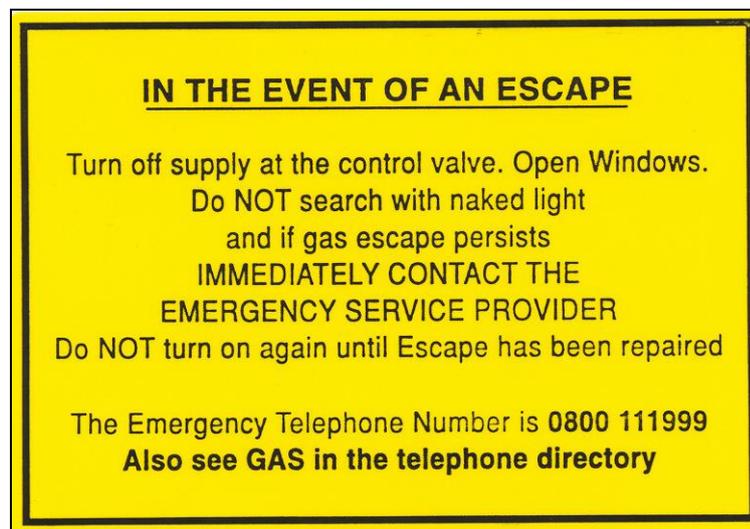
### D.2 IF YOU THINK YOU CAN SMELL GAS (EMERGENCY LABEL).

**Category:** Meter installation label.

**Description:** If you think you can smell gas, emergency telephone number.

**Purpose:** Statutory installation label. Gas Safety (Installation and Use) Regulations 1998.

**Use:** Supplied on new meters but will need to be used as a replacement on older meters.



D.3 LP Composite tie-on label – fix to meter inlet or outlet. Product Code:  
METLABESPLP



The Gas Transporter for this meter point is:  
**E S Pipelines Limited**

**This meter installation is the Property of E S Pipelines Limited**

**IF YOU THINK YOU CAN SMELL GAS**

Turn off supply at the Emergency Control Valve (ECV) – *the ECV is the valve with the RED handle - when the handle is at right angles to the incoming pipe the valve is in the closed position*

Open Windows.

Do **NOT** use naked flames.

Do **NOT** turn electrical switches on or off.

Do **NOT** smoke.

**IMMEDIATELY CONTACT THE GAS EMERGENCY SERVICE USING  
TELEPHONE NO: 0800 111999**

Do **NOT** re-open the supply until remedial action has been taken by a competent person to prevent gas escaping.

**IMPORTANT SAFETY WARNING**

In order to comply with the Gas Safety (Installation and Use) Regulations 1998, the person connecting the internal installation pipework to the meter outlet shall be competent to do the work, shall ensure the installation is gas tight and shall also ensure that only fully commissioned gas appliances are left connected to the supply.

**Failure to comply with this would be an offence under the  
Gas Safety (Installation and Use) Regulations 1998.**

**WARNING**

The outlet of this meter has been sealed by the insertion of a disc in the outlet supply union which must only be removed, and the supply established, by a competent person. Failure to comply with this would be an offence under the Gas Safety (Installation and Use) Regulations 1998.

**To prevent damage, the gas meter must be removed prior to the soldering of any joints.**

**LOW PRESSURE SUPPLY**

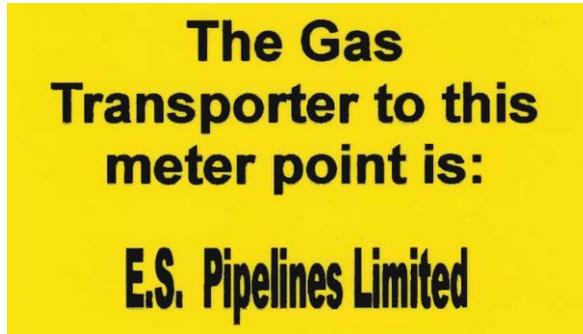
The gas pressure to this supply point is **LOW PRESSURE**, to a maximum operating pressure of **75 millibar gauge.**

This meter installation is fitted with a Low Pressure regulator.

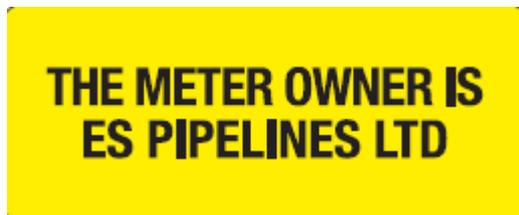
The outlet pressure of the Low Pressure regulator is factory pre-set to 21millibar gauge and is non-adjustable.

Outlet Pressure at Meter is approx. **20.5 millibar gauge**

**D.4 Gas Transporter – self-adhesive stick on label. Product Code METLABESP5**



**D.5 Meter Owner – self-adhesive stick on label. Product Code METLABESP6**



**D.6 ON/OFF TAPE: ECV – self-adhesive stick on label  
Product Code METLABON-OFF**

**Category:** Meter installation label.

**Description:** On/Off tape

**Purpose:** Statutory installation label, Gas Safety (Installation and Use) Regulations 1998.

**Use:** Show customer operation of use of emergency control valve. Usually fitted on semi-rigid connector.

**Note:** For those service providers who do not use the ES Pipelines contract framework will need to resource the Emergency Control Valve (ECV) self-adhesive or otherwise attached label direct.



## **APPENDIX E - WARNING LABELS (STATUTORY AND NON-STATUTORY)**

### **E.1 INTRODUCTION**

This Appendix will identify labels, statutory or non-statutory, that ESPUG, as the Meter Asset Manager (MAM) is required to attach to a meter installation as a result of legislation including The Gas Safety (Installation & Use) Regulations 1998, and as required under IGEM/G/11 Gas Industry Unsafe Situations Procedure

During the course of their work gas operatives may encounter appliances/installations that require a warning notice to be attached or a Notice or Reporting form to be issued. The gas operative has a duty to inform the responsible person, disconnect the appliance or make safe a gas installation/appliance as appropriate. It is not sufficient to only issue verbal advice, but labels, notices or forms may be proof that a gas operative has fulfilled their mandatory duties. ESPUG do not supply these labels or notices direct. These can be resourced direct from Gas Safe who has developed a range of inexpensive labels and forms that contain appropriate wording and safety checks that comply with current legislation.

### **TYPICAL LABELS SHOWN BELOW**

#### **Labels Available via Gas Safe Direct**



**E.1 DO NOT USE TRIANGLE - UNSAFE APPLIANCE/INSTALLATION**



# ELECTRICAL BONDING

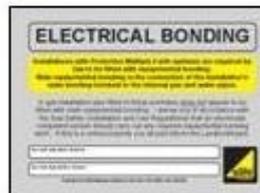
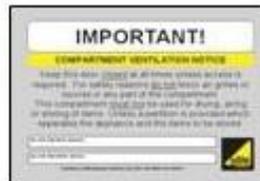
**Installations with Protective Multiple Earth systems are required by law to be fitted with equipotential bonding.**  
**Main equipotential bonding is the connection of the installation's main bonding terminal to the internal gas and water pipes.**

A gas installation pipe fitted in these premises does not appear to be fitted with main equipotential bonding. I advise you in accordance with the Gas Safety (Installation and Use Regulations) that an electrically competent person should carry out any required equipotential bonding work. If this is a rented property you should inform the Landlord/Agent

Gas Safe Registered Engineer: \_\_\_\_\_

Gas Safe Registration Number: \_\_\_\_\_

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## Meter Labels: Samples of other types

**Category:** Warning label.

**Description:** Sealing disc fitted.

**Purpose:** Statutory information on supply status.

**Use:** Inform Customer of supply status and reconnection requirements.



## E.2 WARNING – CLAMPED SUPPLY

**Category:** Warning label.

**Description:** Warning – clamped supply.

**Purpose:** Clamped supply after meter connection.

**Use:** Customer information on status of supply.

# WARNING

This supply has been clamped.

Attempts by unauthorised persons to restore  
the supply are both **DANGEROUS** and **ILLEGAL**.

To have the gas supply restored, please contact a Public Gas Supplier.

Previous Customer Index Meter Reading \_\_\_\_\_

Date Label attached \_\_\_\_\_

Signature \_\_\_\_\_

## THIS PIPE CONTAINS GAS UNDER PRESSURE

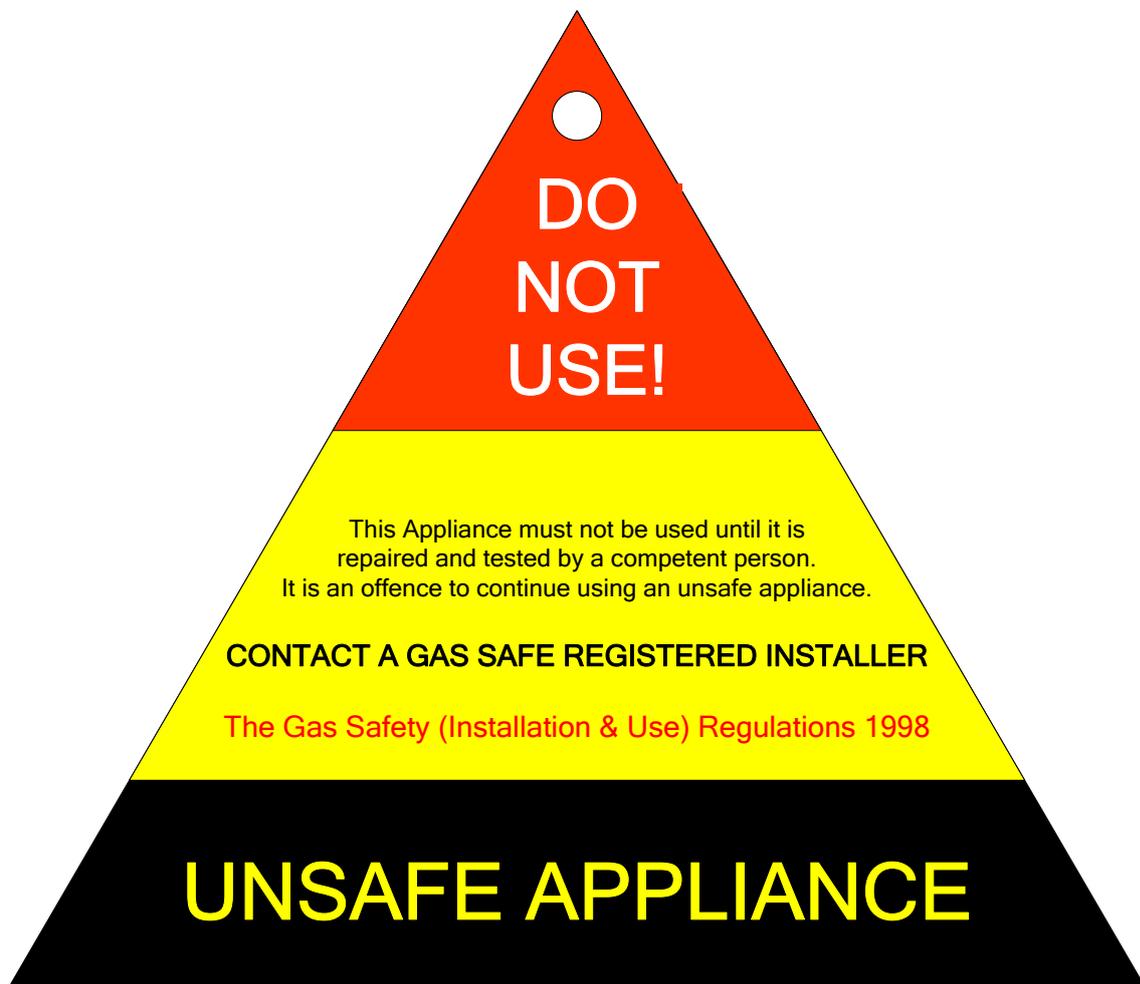
### E.3 DO NOT USE TRIANGLE - UNSAFE APPLIANCE

**Category:** Warning label.

**Description:** Do not use triangle – unsafe appliance.

**Purpose:** Statutory warning label, Gas Safety (Installation & Use) Regulations 1998.

**Use:** Customer warning/advice label – Unsafe appliance.



#### E.4 DO NOT USE TRIANGLE - UNSAFE INSTALLATION

**Category:** Warning label.

**Description:** Do Not Use Triangle - Unsafe installation.

**Purpose:** Statutory warning label, Gas safety (installation and use) regulations 1998.

**Use:** Customer warning/advice label - Unsafe installations.



## APPENDIX F - METERWORK CUSTOMER ADVICE CARDS

### F.1 INTRODUCTION

This Appendix will identify advice cards that ESPUG installers may use to provide a specific instruction for customers that are either required to take further action to rectify a fault or require a repeat visit by ES PUG.

Some cards are required because of legislation including The Gas Safety Regulations (Installation & Use) 1998.

The Service Provider will be responsible for leaving a card to notify the end-user where no access was available.

Cards for Electrical Bonding are available from Gas Safe Direct.

### F.2 ELECTRICAL EARTH BONDING

**Category:** Meter work customer advice cards.

**Description:** Electrical earth bonding.

**Purpose:** No or suspect cross bonding found.

**Use:** Customer advice note

