

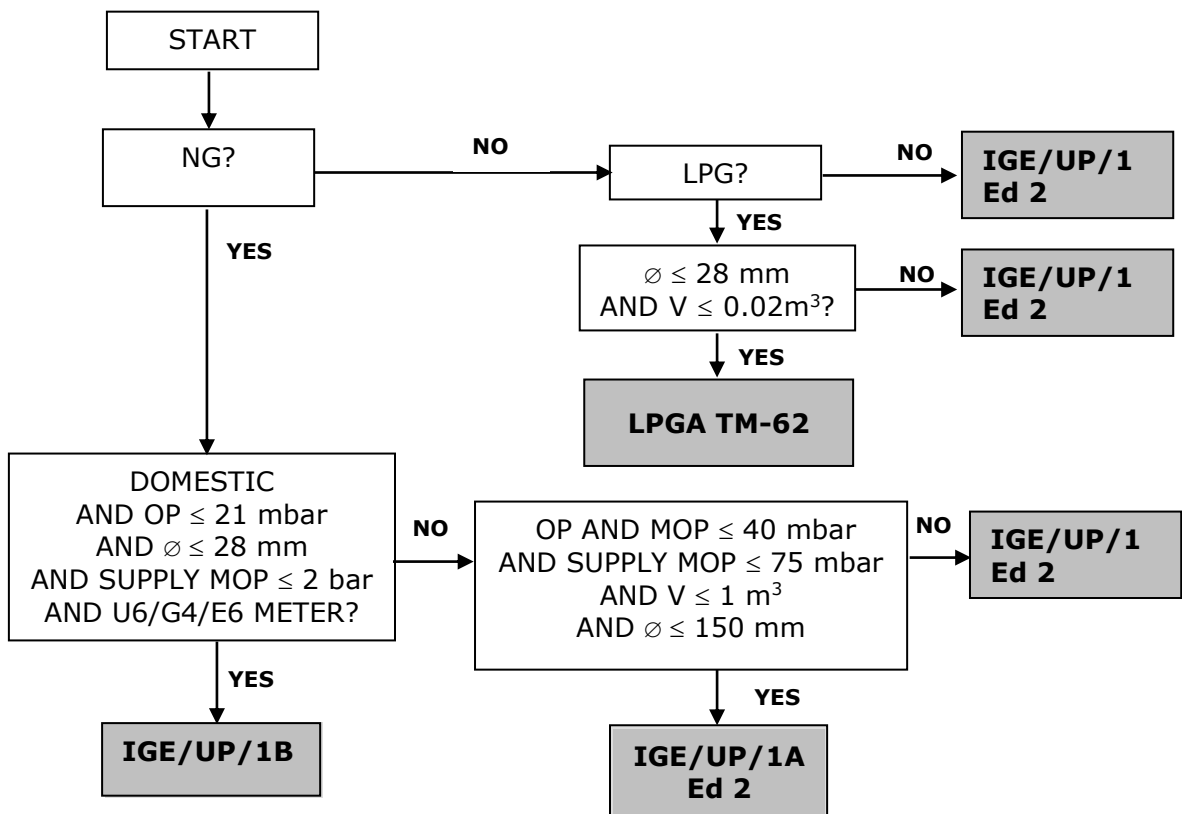
**IGE/UP/1A EDITION 2  
COMMUNICATION 1701  
2003**

The following Amendments (March 2005) apply to all copies of IGE/UP/1A Edition 2 published in 2003. It is not necessary to apply these to IGE/UP/1A Edition 2 Reprint with Amendments (Communication 1717) which already includes them.

**Contents Appendix. Add new row at end:**

4 Tightness test durations for a water gauge using the concept of "no perceptible movement" (for new installations only) 49

**Figure 2 Delete flow diagram and italicized key entirely. Retain the Note and Title. Substitute:**



*≤ is less than or equal to  
ø is nominal diameter  
V is volume.*

**Sub-Section 2.1 1<sup>st</sup> paragraph. Add a 2<sup>nd</sup> sentence after Note 2:**  
See additional text in 2.1(A) at base of page.

**Add at base of page:**

2.1(A) However, any new pipework between the ECV and the inlet of the first regulator downstream of the ECV is excluded from the scope unless it has been pre-tested for strength and tightness prior to assembly.

**Sub-Section 2.2 Add a further Note:**  
Note 4: See Sub-Section 2.7 regarding the principles adopted for the detection of leakage.

**Section 2 Add:**

2.7. IGE/UP/1A Edition 2 adopts the concept of "gauge readable movement (GRM)". When using a water gauge, it may be possible to reduce the duration of tests for new installations and extensions by adopting the concept of "no perceptible movement" (see Appendix 4).

**Sub-Section 4.1 Adjacent to "Acronyms", add new paragraph:**

These Procedures assume that MOP equates to Design Pressure (DP). Where DP is quoted and is in excess of MOP, then the value of DP shall be used in the calculation of STP.

**Clause 4.2.1 Delete clause and associated note in their entirety. Substitute:**

A strength test shall be carried out on any new installation or extension except for components that have been pre-tested or have been removed to avoid over pressurisation, for example appliances.

*Note: Where a component or sub-assembly (meter installation component, meter "skid" unit, etc.) has been pre-tested and not subsequently modified and has appropriate certificates of conformity available, the strength testing of such a component/assembly need not be undertaken but a visual examination of joints, general condition, suitability, etc. is recommended prior to installing and subsequent tightness testing as for a new installation (see Sub-Section 4.4). Permanent marking, for example by manufacturer's badging/stamping, may be deemed as certification of conformity.*

**Clause 4.5.11 2<sup>nd</sup> sentence. Delete "MOP". Substitute:**

STP and MOP

**Figure 4 3<sup>rd</sup> arrow down of 2<sup>nd</sup> column of boxes. Delete "No".**

**Clause 5.1.2.4 Delete entirely. Substitute:**

Where it is not necessary to test any component of the meter installation, such a component shall be isolated at the meter installation outlet valve/meter outlet valve (MIOV/MOV), as appropriate.

**Clause 5.2.2(d) 2<sup>nd</sup> line of calculation. Delete entirely. Substitute:**

=  $0.100 + (12 \times 0.0054) + (10 \times 0.00084) + (IV_{pa} + IV_{pb}) (0.1)$ .

**Table 4 Delete right hand column entirely. Delete Note entirely.**

**Table 5 Delete the Table and its Note entirely. Retain the title. Substitute the following page (UP/1A/3).**

**Table 6 Add below the table title:**

IGE/UP/1A Edition 2 adopts the concept of "gauge readable movement (GRM)". When using a water gauge, it is possible to reduce the duration of tests for new installations and extensions by adopting the concept of "no perceptible movement" in which case Appendix 4 shall be used.

**Clause 5.7.3(d) Delete entirely. Substitute:**

Raise the pressure in the section to at least TTP. Isolate the air supply.

**Clause 5.7.3(f) Delete text entirely. Substitute:**

Adjust to TTP.

IV (m <sup>3</sup> )	VOLUME OF SMALLEST OCCUPIED SPACE (RV) (m <sup>3</sup> )																											
	≤10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	35	40	45	50	55	≥60	
≤ 0.15	0.7	0.8	0.8	0.9	1	1	1.1	1.2	1.2	1.3	1.4	1.4	1.5	1.6	1.7	1.7	1.8	1.8	1.9	2	2.1	2.4	2.8	3.1	3.5	3.9	4.2	
>0.15 ≤ 0.2	0.7	0.8	0.9	0.9	0.9	1	1.1	1.2	1.2	1.3	1.4	1.4	1.5	1.6	1.7	1.7	1.8	1.8	1.9	2	2.1	2.3	2.8	3	3.4	3.8	4.1	
>0.2 ≤ 0.25	0.7	0.7	0.8	0.9	0.9	0.9	1	1.1	1.2	1.3	1.3	1.4	1.4	1.5	1.6	1.7	1.7	1.8	1.8	1.9	2	2.2	2.7	2.9	3.3	3.7	4.0	
>0.25 ≤ 0.3	0.7	0.7	0.8	0.9	0.9	0.9	1	1.1	1.2	1.2	1.3	1.3	1.4	1.5	1.6	1.6	1.7	1.7	1.8	1.8	2	2.1	2.7	2.9	3.2	3.6	3.9	
>0.3 ≤ 0.35	0.7	0.7	0.8	0.9	0.9	0.9	1	1.1	1.2	1.2	1.3	1.3	1.4	1.5	1.6	1.6	1.6	1.7	1.7	1.8	1.9	2.1	2.6	2.8	3.2	3.6	3.9	
>0.35 ≤ 0.4	0.6	0.7	0.8	0.8	0.8	0.9	1	1	1.1	1.2	1.3	1.3	1.5	1.5	1.5	1.6	1.6	1.7	1.7	1.8	1.9	2	2.6	2.8	3.1	3.5	3.8	
>0.4 ≤ 0.45	0.6	0.7	0.7	0.8	0.8	0.9	1	1	1.1	1.2	1.3	1.3	1.3	1.4	1.5	1.5	1.6	1.7	1.7	1.8	1.9	2	2.5	2.7	3.1	3.4	3.7	
>0.45 ≤ 0.5	0.6	0.7	0.7	0.8	0.8	0.9	1	1	1.1	1.2	1.2	1.3	1.3	1.4	1.5	1.5	1.5	1.6	1.7	1.7	1.9	2	2.5	2.7	3	3.4	3.7	
>0.5 ≤ 0.55	0.6	0.6	0.7	0.8	0.8	0.9	1	1	1.1	1.1	1.2	1.2	1.3	1.4	1.5	1.5	1.5	1.6	1.6	1.7	1.8	2	2.4	2.6	3	3.3	3.6	
>0.55 ≤ 0.6	0.6	0.6	0.7	0.7	0.8	0.8	0.9	1	1.1	1.1	1.2	1.2	1.3	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.8	1.9	2.4	2.6	3	3.3	3.6	
>0.6 ≤ 0.65	0.6	0.6	0.7	0.7	0.8	0.8	0.9	1	1.1	1.1	1.2	1.2	1.3	1.4	1.4	1.4	1.5	1.5	1.6	1.7	1.8	1.9	2.3	2.5	2.9	3.2	3.5	
>0.65 ≤ 0.7	0.5	0.6	0.7	0.7	0.8	0.8	0.9	1	1	1.1	1.2	1.2	1.2	1.3	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.9	2.3	2.5	2.9	3.2	3.5	
>0.7 ≤ 0.75	0.5	0.6	0.6	0.7	0.8	0.8	0.9	0.9	1	1.1	1.1	1.1	1.2	1.3	1.3	1.4	1.4	1.5	1.5	1.6	1.7	1.9	2.2	2.4	2.9	3.1	3.4	
>0.75 ≤ 0.8	0.5	0.5	0.6	0.7	0.8	0.8	0.9	0.9	1	1.1	1.1	1.1	1.2	1.3	1.3	1.4	1.4	1.5	1.5	1.6	1.7	1.9	2.2	2.4	2.8	3.1	3.3	
>0.8 ≤ 0.85	0.5	0.5	0.6	0.6	0.7	0.8	0.8	0.9	1	1	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.5	1.5	1.6	1.8	2.1	2.3	2.8	3	3.2	
>0.85 ≤ 0.9	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.9	0.9	1	1	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.5	1.5	1.6	1.8	2.1	2.3	2.6	3	3.1	
>0.9 ≤ 0.95	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.9	0.9	1	1	1	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.5	1.6	1.8	2	2.2	2.6	2.9	3.1	
>0.95 ≤ 1.0	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.9	0.9	1	1	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.5	1.7	2	2.2	2.5	2.8	3.0	

**Maximum allowable pressure drop (mbar)**

Note 1: For RV between two stated values, assume the lower value e.g. for RV = 42 m<sup>3</sup>, use 40 m<sup>3</sup>.

Note 2: For a water gauge, where appropriate, round the maximum allowable pressure drop downwards to the next lower 0.5 mbar e.g. for 1.3 mbar, use 1.0 mbar, for 1.8 mbar, use 1.5 mbar.

**Clause 5.7.4(a)**      **Delete entirely. Substitute:**  
Where practical, turn off all appliances and close any appliance isolation valve. Close any upstream section isolation valve to prevent air entering the upstream pipework.

**Clause 5.7.4(c)**      **Delete entirely. Substitute:**  
Carry out a let-by test of the isolation valve. Adjust the pressure to approximately 50% OP by slowly opening the isolation valve and turn off the gas supply by closing the isolation valve.

If, over the test period as given in Table 8, a perceptible rise in pressure is observed, the isolation valve may be letting-by. Any defective isolation valve shall be repaired/replaced before proceeding to the tightness test. If let-by is confirmed on an ECV, the National Gas Emergency Service Call Centre shall be notified and the installation made safe, suspending the test until a repair has been made.

**Clause 5.7.4(d)**      **Delete entirely. Retain Note. Substitute:**  
Admit gas or air, as appropriate, and adjust the pressure in the section to at least TTP.

**Clause 5.7.4(f)**      **Delete entirely. Substitute:**  
Adjust the pressure to TTP and observe the gauge for the tightness test duration (TTD). If using air (see (d) above), isolate the source of the air supply.

**Clause 5.7.4(h)**      **Delete 3rd paragraph. Substitute:**  
If a discernible pressure drop is recorded, or there is a smell of gas, any individual appliance isolation valve that has been left open shall be closed and the test repeated until the leak is located (see below).

**Clause 5.8.2**      **Delete entirely. Substitute.**  
A let-by test shall be carried out on the appliance isolation valve (see clause 5.7.4(c)). Thereafter, a tightness test shall be undertaken on the appliance connector. For pipework volumes not exceeding 0.12 m<sup>3</sup>, there shall be no perceptible movement of the gauge over a period of 2 minutes at a pressure of not less than OP. For pipework volumes exceeding 0.12 m<sup>3</sup>, the volume of the pipework shall be calculated and a tightness test carried out in accordance with clause 5.7.4.

**Clause 5.8.3**      **Final paragraph. Delete entirely. Retain Note. Substitute:**  
In order to prevent lock-up, the regulator should be by-passed, using tubing of suitable material and bore, fitted across the regulator (or it may be possible to put the regulator out of action by screwing down to its maximum setting – in which case the isolation valve should be opened slowly to prevent regulator lock-up).

**Clause 5.8.3**      **Add a Note 2:**  
*Note 2: For a meter regulator, the adjustment of the regulator may only be undertaken by a GT-  
authorised person.*

**Clause 6.2.6**      **2<sup>nd</sup> paragraph. 1<sup>st</sup> sentence. Delete entirely. Substitute:**  
If it becomes immediately apparent that a direct purge will not achieve the required flow rate, the restriction may be removed and the purge re-started. Otherwise, an indirect purge via N<sub>2</sub> shall be carried out (see Appendix 3).

**Clause 6.11.2(a)**      **Amend "5.7.2(c)" to: 5.7.4(c).**

**Clause 6.11.2(g)**      **Add two further sentences:**  
Seal or disconnect pipework from the gas supply, sealing all ends with an appropriate fitting. Decommission in accordance with these Procedures.

**Appendix 3 Add new Sub-Appendix:**

A3.10      Once the purge to Nitrogen is complete, it is advisable to then purge to air and ensure the oxygen level is at least 20%.

**Appendix 4 Add to the inside of the back cover a new Appendix 4 (following page) (UP/1A/6).**

**APPENDIX 4 : TIGHTNESS TEST DURATIONS FOR A WATER GAUGE USING THE CONCEPT OF "NO PERCEPTIBLE MOVEMENT"(FOR NEW INSTALLATIONS ONLY)**

For clarity, IGE/UP/1A Edition 2 adopts the concept of "gauge readable movement (GRM)". This is because the meaning of "no perceptible movement" is open to differing interpretation with respect to electronic gauges, which are seeing increased usage. However, in the case of a water gauge, the use of "no perceptible movement" is an established and understood concept.

When testing a new installation, using this concept for a water gauge has the benefit of significantly reducing the test times from those given in Table 6 which are based on GRM. The table below gives the equivalent values for "no perceptible movement".

Any movement of the gauge during the test time indicates the installation has failed the tightness test.

<b>IV (m<sup>3</sup>)</b>	<b>TIGHTNESS TEST DURATION NPM (0.25 mbar) (water gauges)</b>
Up to 0.06	2
> 0.06 ≤ 0.09	2
> 0.09 ≤ 0.12	2
> 0.12 ≤ 0.15	3
> 0.15 ≤ 0.18	3
> 0.18 ≤ 0.21	4
> 0.21 ≤ 0.24	4
> 0.24 ≤ 0.27	5
> 0.27 ≤ 0.3	5
> 0.3 ≤ 0.33	6
> 0.33 ≤ 0.36	6
> 0.36 ≤ 0.39	7
> 0.39 ≤ 0.42	7
> 0.42 ≤ 0.45	8
> 0.45 ≤ 0.48	8
> 0.48 ≤ 0.51	9
> 0.51 ≤ 0.54	9
> 0.54 ≤ 0.57	10
> 0.57 ≤ 0.6	10
> 0.6 ≤ 0.63	11
> 0.63 ≤ 0.66	11
> 0.66 ≤ 0.69	12
> 0.69 ≤ 0.72	12
> 0.72 ≤ 0.75	13
> 0.75 ≤ 0.78	13
> 0.78 ≤ 0.81	14
> 0.81 ≤ 0.84	14
> 0.84 ≤ 0.87	15
> 0.87 ≤ 0.9	15
> 0.90 ≤ 0.93	16
> 0.93 ≤ 0.96	16
> 0.96 ≤ 1.0	17

**TIGHTNESS TEST DURATION (TTD) FOR NEW INSTALLATIONS AND EXTENSIONS USING NO PERCEPTIBLE MOVEMENT**

**END OF UP/1A EDITION 2 AMENDMENTS**