

***IGEM/G/6***  
***Communication 1728***

## ***Gas supplies to mobile dwellings***



*Founded 1863*  
*Royal Charter 1929*  
*Patron: Her Majesty the Queen*



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***Communication 1728***

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## SECTION 1 : INTRODUCTION

1.1 This Standard supersedes IGE/UP/8, Communication 1647, which is obsolete.

This Standard has been produced primarily for the benefit of operators of caravan parks and marinas, and gas operatives, and provides:

- additional requirements, interpretation and clarification of national/international legislation, standards and codes of practice (without duplicating or replacing these)
- best practice on distributing, metering and installing Natural Gas and liquefied petroleum gas (LPG) (including cylinder and bulk storage) plant
- details of legislation, Codes of Practice (CoPs), health and safety requirements and regulations etc. that are applicable (see also Appendix 2).

1.2 This Standard has been drafted by a Panel appointed by the Institution of Gas Engineers and Managers' (IGEM's) Gas Utilization Committee, subsequently approved by that Committee and published by the authority of the Council of IGEM.

1.3 This Standard reflects current recommended practice. It directs readers to the numerous established national standards and legislation, and additionally includes requirements specific to mobile dwellings (see Sub-Section 2.1).

1.4 New terms such as "maximum operating pressure" (MOP), "maximum incidental pressure" (MIP) and "operating pressure" (OP) have been introduced to reflect gas pressure terminology used in European standards. These terms will arise in all relevant IGEM Standards in future and, possibly, in other standards. Other new terms have been introduced to assist in recognition of design information to be transferred between interested parties.

Referring to Figure 1, note how OP is shown to oscillate about the set point (SP). Note also that MOP can be declared at a higher value than OP. The strength test pressure (STP) has to exceed MIP. Note this Figure is based upon European and IGEM Standards for Natural Gas but the principles equally apply to LPG.

1.5 This Standard makes use of the terms "should", "shall" and "must" when prescribing particular requirements. Notwithstanding Sub-Section 1.8:

- the term "must" identifies a requirement by law in Great Britain (GB) at the time of publication
- the term "shall" prescribes a procedure which, it is intended, will be complied with in full and without deviation
- the term "should" prescribes a procedure which, it is intended, will be complied with unless, after prior consideration, deviation is considered to be acceptable.

Such terms may have different meanings when used in legislation, or Health and Safety Executive (HSE) Approved Codes of Practice (ACoPs) or guidance, and reference needs to be made to such statutory legislation or official guidance for information on legal obligations.

1.6 The primary responsibility for compliance with legal duties rests with the employer or the person in control. The fact that certain employees, for example "responsible engineers", are allowed to exercise their professional judgement does not allow employers to abrogate their primary responsibilities. Employers must:

- comply with legislation

- have done everything to ensure, so far as is reasonably practicable, that there are no better protective measures that can be taken other than relying on the exercise of professional judgement by “responsible engineers”
- have done everything to ensure, so far as is reasonably practicable, that “responsible engineers” have the skills, training, experience and personal qualities necessary for the proper exercise of professional judgement
- have systems and procedures in place to ensure that the exercise of professional judgement by “responsible engineers” is subject to appropriate monitoring and review
- not require “responsible engineers” to undertake tasks which would necessitate the exercise of professional judgement that is not within their competence. There should be written procedures defining the extent to which “responsible engineers” can exercise their judgement. When “responsible engineers” are asked to undertake tasks which deviate from this, they should refer the matter for higher review.

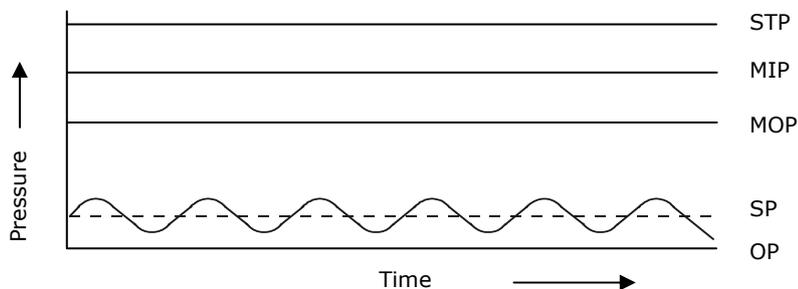
These principles equally apply to designated/delegated employees, contractors, etc.

1.7 It is now widely accepted that the majority of accidents in industry generally are in some measure attributable to human as well as technical factors in the sense that actions by people initiated or contributed to the accidents, or people might have acted in a more appropriate manner to avert them.

It is therefore necessary to give proper consideration to the management of these human factors and the control of risk. To assist in this, it is recommended that due cognisance should be taken of HS(G)48.

1.8 This Standard does not attempt to make the use of any method or specification obligatory against the judgement of the responsible engineer. Where new and better techniques are developed and proved, they should be adopted without waiting for modification to this Standard. Amendments to this Standard will be issued when necessary and their publication will be announced in the Journal of the Institution and other publications as appropriate.

1.9 Requests for interpretation of this Standard in relation to matters within its scope, but not precisely covered by the current text, should be addressed to Technical Services, IGEM, Charnwood Wing, Holywell Park, Ashby Road, Loughborough, Leicestershire, LE11 3GH and will be submitted to the relevant Committee for consideration and advice, but in the context that the final responsibility is that of the engineer concerned. If any advice is given by or on behalf of IGEM, this does not relieve the responsible engineer of any of his or her obligations.



- STP = Strength test pressure
- MIP = Maximum incidental pressure
- OP = Operating pressure
- MOP = Maximum operating pressure
- SP = Set point of, typically, the active regulator.

**FIGURE 1 - OPERATIONAL PRESSURE LIMITS**

## SECTION 2 : SCOPE

### Acronyms and abbreviations

ECV	=	emergency control valve
GS(I&U)R	=	Gas Safety (Installation and Use) Regulations
IGEM	=	Institution of Gas Engineers and Managers
LPG	=	liquefied petroleum gas
MOP	=	maximum operating pressure

### Units

mbar	=	millibar
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2.1 This Standard addresses the design, installation, testing, purging, commissioning, operation, maintenance and decommissioning of gas supply systems (see Figure 2) up to the point of connection to pre-fabricated pipework on:

- caravan holiday homes (sometimes referred to as chalets, lodges or villas)
- residential park homes (sometimes referred to as chalets, lodges or villas)
- waterborne accommodation (often referred to as permanently moored boats).

*Note 1: Further, specialist, advice is required for gas supply systems for permanently moored boats used for commercial or industrial purposes.*

*Note 2: These items are collectively referred to in this Standard as "mobile dwellings" and are defined and described in Appendix 1.*

The Standard does not specifically address single or multiple stanchions that offer plug-in connections for various services to touring caravans and motor homes (sometimes referred to as "super pitches"). Guidance on such stanchions may be sought from the gas supplier.

2.2 This Standard covers odorised 2<sup>nd</sup> family gas (for example Natural Gas) and 3<sup>rd</sup> family gas (for example LPG).

*Note: Both propane and butane are covered in general. However, the use of butane is not generally recommended due to limitations regarding pressure and temperature (see Appendix 3). Its use is normally limited to cylinders.*

While these comprise the majority of fuel gases available, the Standard will, on the whole, be applicable for other fuel gases, for example LPG/air, although cognizance has to be taken of special properties of such gases both in the burned and unburned state.

2.3 MOP is limited to a maximum of 75 mbar downstream of any emergency control valve (ECV) (installed at each mobile dwelling).

2.4 This Standard covers piped gas supplied from:

- a Natural Gas network
- an LPG central bulk storage vessel and network
- an independent LPG supply i.e. either a cylinder or an individual bulk storage vessel.

Figure 2 illustrates this scope.

2.5 This Standard covers new and complete replacement bulk storage vessels, network pipes, meter installations and installation pipework (including secondary meters).

*Note 1: In this context, "new and complete replacement" embraces:*

- *any first time gas supply or complete replacement of any of the mentioned sections of the gas supply system*
- *any new extension to an existing section of the gas supply system*
- *significant partial replacement of/alteration to any of the sections of the gas supply system*

*Regarding replacement/alteration, it is important to comply with legal obligations, for example those in GS(I&U)R (see Sub-Section 3.2.3) that concern checks following work on any part of a gas supply system.*

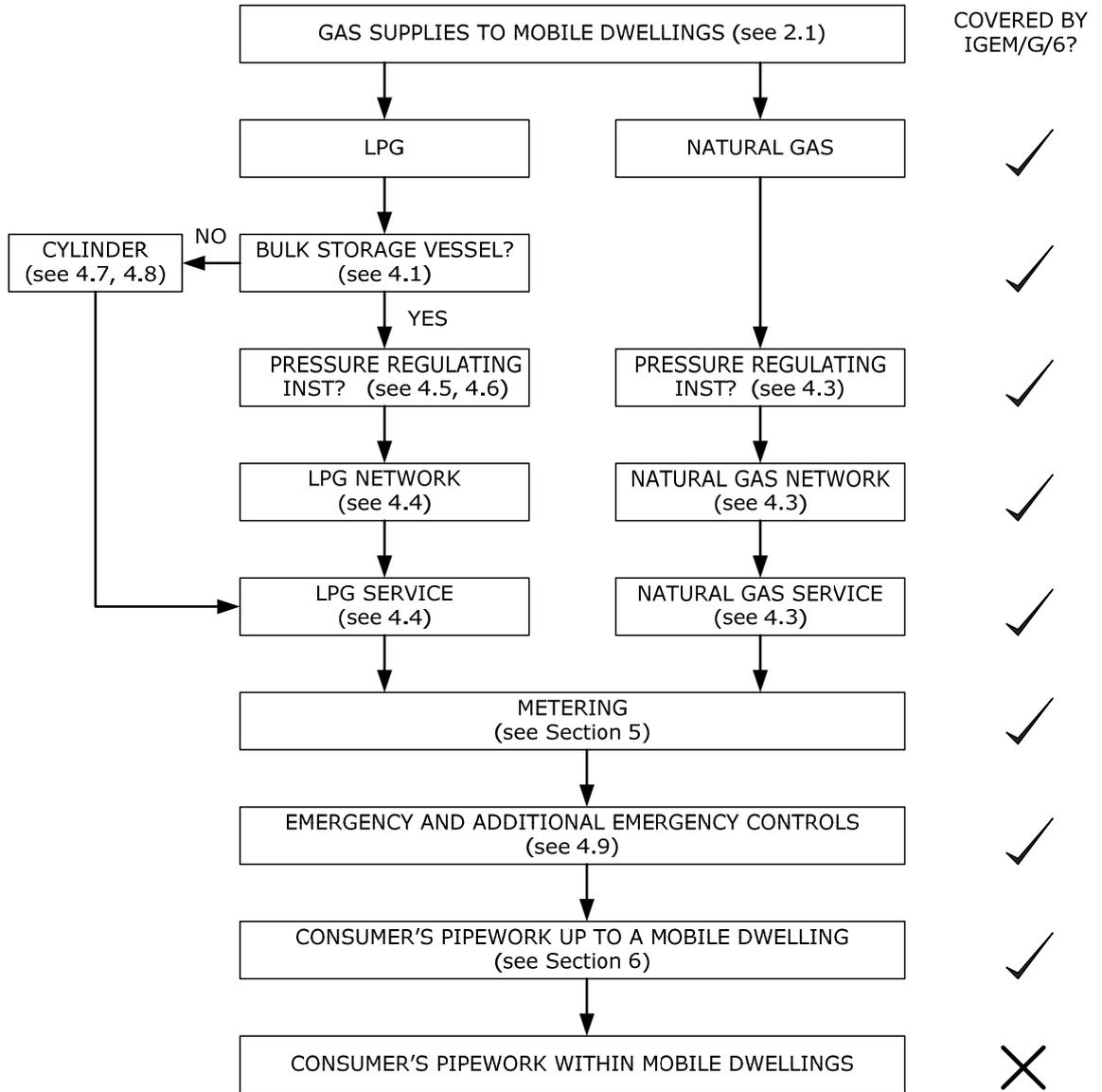
*Note 2: For European and British product, design and installation standards, a "lead-in" time is given for implementation, which varies dependent upon several factors. IGEM Standards announce a "lead-in" time of 3 months and this is intended to apply for the clear new and complete replacement situations, as above, covered by its Scope. For existing installations and like for like component replacement, IGEM recommends adoption of this Standard but, if not adopted, engineers, operatives etc. need to be aware of current arrangements and procedures used by authorities to define the status of a gas installation, for example "not to current standards" as defined in the current Gas Industry Unsafe Situations Procedure. It is strongly recommended that a risk assessment is always carried out and appropriate modifications made if indicated.*

2.6 All pressures are gauge pressures unless otherwise stated.

2.7 Italicised text is informative and does not represent formal requirements.

2.8 Appendices are informative and do not represent formal requirements unless specifically referenced in the main sections via the prescriptive terms "should", "shall" or "must".

2.9 Natural Gas pipelines up to and including the ECV at each mobile dwelling are normally referred to as "network pipelines". However, this is not a term associated with the supply of LPG for which such pipes are defined in GS(I&U)R as "service pipework". However, for the purposes of this Standard, components upstream of and including the ECV at each mobile dwelling are referred to as storage vessels (for LPG), cylinders (for LPG) and network systems (for both LPG and Natural Gas). Section 6 deals with pipes and pipework downstream of an ECV i.e. installation pipes and pipework.



IGEM/G/6 applies in addition to existing standards.

**FIGURE 2 - SCOPE OF IGEM/G/6**