



A Standard for IGEM Standards

IGEM/G/0 Edition 2
Communication 1842





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Communication 1842***

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



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SECTION 1: INTRODUCTION

- 1.1 This Standard supersedes IGEN/G/0 Edition 1, which is now obsolete.
- 1.2 The requirement for this Standard has been agreed between the IGEN Technical Co-ordinating, Gas Transmission and Distribution, Gas Utilisation, Hydrogen, Liquid Natural Gas and Gas Measurement Committees, who are responsible for the publication of IGEN Standards.
- 1.3 This Standard has been created to ensure a consistent approach is taken in producing IGEN Standards. It therefore provides a framework for the content, style, layout and publication which need to be taken into consideration when writing or revising IGEN Standards.
- 1.4 The intention is to ensure the requirements of any IGEN Standard are effectively communicated and interpreted.
- 1.5 This Standard attempts to consolidate hitherto different styles, formats and language used to offer a framework which can be applied for new Standards and for existing Standards, as and when they are reviewed.
- 1.6 IGEN/G/0 is for those involved in the drafting and interpreting of IGEN Standards, that is IGEN Secretariat, Panel members, Committee members and readers of IGEN Standards.
- 1.7 This Standard makes use of the terms "shall" and "should" when prescribing particular requirements.
- the term "shall" prescribes a requirement which, it is intended, will be complied with in full and without deviation
 - the term "should" prescribes a requirement which, it is intended, will be complied with unless, after prior consideration, deviation is considered to be acceptable.
- This Standard can be freely downloaded from IGEN's website www.igem.org.uk.
- 1.8 Requests for interpretation of this Standard in relation to matters within their scope, but not precisely covered by the current text, to be either:
- addressed to Technical Services, IGEN, IGEN House, 26 & 28 High Street, Kegworth, Derbyshire, DE74 2DA; or
 - emailed to technical@igem.org.uk.
- These will be submitted to the relevant Committee for consideration and advice.
- 1.9 This Standard was published in May 2022.

SECTION 2 : SCOPE

2.1 This Standard covers the requirements for all new IGEM Standards. It will also be applicable to existing IGEM Standards when they are reviewed.

Note 1: It is not the intention for the publication of IGEM/G/0 to initiate reviews of existing IGEM Standards.

Note 2: IGEM/G/0 is for those involved in drafting and interpreting of IGEM Standards that is IGEM Secretariat, Panel members, Committee members and readers of IGEM Standards.

Note 3: IGEM publishes Standards, Specifications, Guidance and other documents. The requirements of this Standard equally apply to these documents, unless expressly provided.

2.2 This Standard defines the content that needs to be included in a new or revised Standards.

2.3 This Standard prescribes the style and format requirements.

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

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

SECTION 3 : PRINCIPLES

3.1 STATUS OF IGEN STANDARDS

Requirements within IGEN Standards assist competent engineers in complying with legal requirements and provide instruction and guidance on the requirements to ensure efficient, safe and environmentally sustainable gas assets.

3.2 GENERAL

A Standard or Guidance document shall:

- be complete within the limits of its scope
- be consistent, accurate and unambiguous
- take account of the current legal requirements
- take account of the current state of technical development
- provide a framework in which innovation can be accommodated and supported
- be readily comprehensible to those who might intend to use it
- take account of environmental impacts.

3.3 Standards shall include clauses that from Section 3 onwards contain "must" "shall" or "should" otherwise the text has to constitute a note. These terms are defined as;

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

Note: Requirements in a clause cannot be qualified by words such as preferably or normally.

Guidance documents shall include "should". If there are no legal requirements within the document, then the term "must" is not required.

3.4 Appendices and Notes shall not contain "must", "shall" or "should".

3.5 COMPETENT PERSONS

For IGEN Engineering/Technical Standards on gas equipment and activities (design; construction; installation; commissioning; operation; maintenance; etc.), the Standard shall be written in a style that assumes the reader is competent in the gas related subject.

For IGEN documents that are written for persons who are not required to be competent persons in a gas discipline, the document shall be written in a style that does not assume such competence. Otherwise, it shall assume that the reader is competent to carry out any requirements and understand the guidance and information provided.

Note: The majority of IGEN Standards are Engineering/Technical Standards requiring competence in a specific gas discipline, for example IGEN/TD/1; IGEN/UP/2; IGEN/GM/8 etc. A minority of IGEN Standards do not demand such competence, for example IGEN/G/0; IGEN/UP/1101; IGEN/UP/19; IGEN/IG/1 etc. Such guidance documents are aimed at persons such as those responsible for: installed gas equipment (duty holders); specifying and purchasing gas or other equipment; interpreting relevant Legislation, etc. and are not necessarily competent in a gas discipline.

SECTION 4 : INITIATING A REVIEW/NEW STANDARD

4.1 GENERAL

Any IGEN Standard has a Parent Committee responsible for its conception and review (see IGEN's Technical Coordinating Committee (TCC) Governance Manual CD12). Any proposed new Standard/review shall be approved by the Parent Committee in accordance with procedures in the TCC Governance Manual.

4.1.1 The title of any Standard shall be assigned a series title. A number shall be assigned by IGEN Secretariat, for example, IGEN/TD/3 Edition 6.

Note: The review of an existing IGEN Standard will need to consider whether the Standard title and scope is still appropriate.

At the time of publication of IGEN/G/0 Edition 2, IGEN currently publishes Standards in the following Series:

- Gas Measurement (GM)
- General (G)
- Hydrogen (H)
- Industry Guidance (IG)
- Legislation (GL)
- Safety (SR)
- Transmission and Distribution (TD)
- Utilisation (UP).

4.2 GAS MEASUREMENT SERIES

A Standard in this series prescribes requirements for the design, installation, commissioning, operation and maintenance of meter installations (or part thereof) as defined in IGEN/G/1.

A specification in the series termed Purchasing Requirement Specification (PRS), prescribes requirements for equipment which is to be installed in the meter installation.

4.3 GENERAL SERIES

A Standard in this series prescribes requirements for multiple sectors of the gas supply and use industry:

- installation pipework
- meter installation
- network pipelines (Natural gas), service pipework (LPG), pipelines conveying other gases which are to be injected into the Network (Biogas/hydrogen blends).

4.4 HYDROGEN SERIES

Guidance and Standards in this series provides the gas industry with information to support the industry which may or may not relate to a published Standard in one of the other series.

4.5 INDUSTRY GUIDANCE

Guidance in this series provides the gas industry with information to support the industry which may or may not relate to a published Standard in one of the other series.

4.6 **LEGISLATION SERIES**

A Standard in this series prescribes requirements to assist in compliance with specific items of Legislation.

Note: The item of Legislation could be relevant to any part of the gas industry.

4.7 **SAFETY SERIES**

A Standard in this series prescribes requirements for those safety considerations that need to be taken into account across gas industry assets.

4.8 **TRANSMISSION AND DISTRIBUTION SERIES**

A Standard in this series prescribes requirements for the design, installation, commissioning, operation and maintenance for the Network pipelines (Natural gas), service pipework (LPG), pipelines conveying other gases which are to be injected into the Network (for example Biogas/LPG/air).

4.9 **UTILISATION SERIES**

A Standard in this series prescribes requirements for the design, installation, commissioning operation and maintenance for gas installation downstream of the meter installation defined in IGEN/G/1.

SECTION 5 : PLANNING

5.1 PANEL MEMBERSHIP

5.1.1 A Chair and other Panel Member(s) shall be selected in accordance with the TCC Governance Manual.

5.1.2 Members shall agree a draft programme for publication, in accordance with the TCC Governance Manual.

5.1.3 The scope of the Standard shall be determined or reviewed.

Note: This may determine that the extent of the work only requires an amendment or a full review of the document.

5.2 DRAFTING OF STANDARDS

5.2.1 For an IGEM Standard to fulfil its purpose, it shall be drafted in such a way so as to promote best practice (including health, safety, the environment and sustainability) and a consistent approach by all users.

Therefore, it is important for a Standard to be:

- suitable for its intended aims and purposes
- appropriate in content and language for its intended audience
- clear and unambiguous
- sufficiently accurate and precise for its intended purpose
- capable of supporting legitimate claims of compliance and conformity and contain verifiable provisions
- comprehensive within its intended scope and field of application (with details necessary for its effective application by an appropriately qualified and competent user)
- consistent with the law in all jurisdictions where it is envisaged to be applied.

SECTION 6 : STRUCTURE

- 6.1 All Standards shall contain a:
- front cover page - colour coded depending on which series (see Appendix 6)
 - title page
 - publishing and copyright information page
 - content page(s).

Note: The inside front cover and inside back cover are blank.

- 6.2 Standards shall be divided into Sections, with group related and sequential clauses together.

- 6.3 All Standards shall contain Sections entitled:
- Introduction
 - Scope
 - Legal and allied considerations
 - others as required by the scope
 - Appendices as required including as a minimum:
 - A1 Glossary, acronyms, abbreviations and symbols
 - A2 References.

- 6.4 Each Section should start on a new page.

- 6.5 Each Section should be sub-divided into Sub-Sections, paragraphs, clauses, notes, bulleted lists, etc. defined as follows:
- Section – collation of Sub-Sections or collation of clauses and notes
 - Sub-Section – collation of clauses and notes
 - clause – contains a requirement to be followed and signified by a “must”, “shall” or “should”
 - Note – additional information and is not a requirement.

- 6.6 Tables and Figures shall be referred in the text.

- 6.7 Cross-references shall be added where appropriate.

- 6.8 Appendix 1 shall contain a glossary, list of all acronyms, abbreviations, symbols and units used in the Standard.

Note: Glossary for the standard definitions for the gas industry can be found in IGEN/G/4, free to download from www.igem.org.uk.

- 6.9 Appendix 2 shall contain a list of all the references in the Standard. Other references can be included if relevant.

- 6.10 Headers and footers shall commence from the Contents page. The header shall contain the document number (e.g., IGEN/UP/10 Edition 4) indented left and the footer shall contain the page number from Section 1 onwards, IGEN copyright and address centred.

SECTION 7 : CONTENT

7.1 GENERAL

7.1.1 A checklist for compiling a Standard can be found in Appendix 5.

7.1.2 Consistency in terminology shall be used.

7.2 FRONT COVER PAGE

7.2.1 The front cover page shall contain:

- title identifying it as an IGEM publication and the appropriate series
- communication number
- full title
- IGEM logo
- IGEM crest.

Note: An example is provided in Appendix 3.

7.3 TITLE PAGE

7.3.1 The title page shall contain:

- title identifying it as an IGEM publication and the appropriate series
- communication number
- full title
- IGEM logo
- IGEM crest.

Note: An example is provided in Appendix 3.

7.4 PUBLISHING AND COPYRIGHT INFORMATION

7.4.1 The publishing and copyright information shall contain:

- ISBN number
- copyright year
- registered charity number
- published by the Institution of Gas Engineers and Managers
- copyright statement
- list of previous publications – where relevant
- website address.

Note: An example is provided in Appendix 3.

7.4.2 Copyright in material created by Committee, Panel members or others for the purpose of the Standard are exclusively and irrevocably assigned to the Institution and that all intellectual property in such material shall for the purposes of the Standard be fully vested in IGEM as detailed in the TCC Governance Manual.

Contributors accept that exploitation, whether in full or in part, shall take place without reference to them or mention of their name.

Contributors are allowed to continue to use unique contributions provided that:

- they existed prior to commencement or arose during the collaborative process of developing the Standard; and
- the use of copyrightable material does not adversely affect the promulgation or exploitation of the Standards by IGEM.

7.4.3 Other than as stated above, reproduction in any form of materials published by IGEM must be subject to approval in advance by the Institution. Where such permission is granted an appropriate reference and acknowledgement to the Standard as the source shall be made.

7.5 CONTENTS PAGE

7.5.1 The contents shall contain the title of each Section, Sub-Section and division of each Sub-Section.

7.5.2 If there are Figures and/or Tables included in the Standard, they shall also be listed.

7.5.3 All Appendices titles shall be included.

Note: Any divisions of Appendices need not be included.

7.6 INTRODUCTION

7.6.1 The introduction shall contain the following information on:

- any obsolete, superseded or withdrawn Standard(s)
- the Parent Committee responsible for the approval of the Standard
- *"This [Standard/Guidance] has been drafted by an Institution of Gas Engineers and Managers (IGEM) Panel, appointed by IGEM's [appropriate parent] Committee, and has been approved by IGEM's Technical Co-ordinating Committee on behalf of the Council of IGEM."*
- the aim and purpose of the Standard, potentially drafted by the chair
- any significant changes made since the last Edition (if appropriate).

7.6.2 IGEM Standards make use of the terms "must", "shall" and "should". To define these terms, the following paragraph shall be inserted:

"This Standard makes use of the terms "must," "shall" and "should" when prescribing particular requirements. Notwithstanding Sub-Section 1.X:

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

Note: This clause has to be linked to the clause given in 7.6.5, for the Sub-Section reference.

7.6.3 The industry recognises that human factors may be one aspect in the occurrence of accidents. In recognition of this the following paragraph should be inserted:

"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. People who initiated actions that caused or contributed to accidents might have acted in a more appropriate manner to prevent them.

To assist in the control of risk and proper management of these human factors, due regard is to be taken of HSG48 and HSG65."

Note: This clause is only applicable if the Standard covers work on gas installations.

7.6.4 There are a number of legal duties which employers have to comply with. To help identify these responsibilities the following paragraph should be inserted:

"The primary responsibility for compliance with legal duties relating to health and safety at work rests with the employer. 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 are required to:

- *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*

Note: The responsible engineer is a suitably qualified, competent and experienced engineer appointed to be responsible for the execution and for approval of activities designated by their employer.

- *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 professional judgement. When "responsible engineers" are asked to undertake tasks which deviate from this they are to refer the matter for higher review."*

Note: This clause is applicable if the Standard covers work on gas installations.

7.6.5 Amendments are sometimes required to IGEN Standards after the Publication, for example where there are advances in technology. To inform users of IGEN Standards of this process the following paragraph shall be inserted:

"Notwithstanding Sub-Section 1.X, 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 are to be adopted without waiting for the modification of this Standard. Amendments to this Standard will be issued when necessary and their publication will be announced in the Journal of IGEN and other publications as appropriate."

Note: This clause has to be linked to the clause given in 7.6.2, for the Sub-Section reference.

7.6.6 IGEN provides a technical enquiry service to respond to any queries over the intent and interpretation of clauses within IGEN Standards. To inform users of IGEN Standards of this process the following paragraph shall be inserted:

"Requests for interpretation of this Standard in relation to matters within their scope, but not precisely covered by the current text, are to be either:

- *addressed to Technical Services, IGEM, IGEM House, 26 & 28 High Street, Kegworth, Derbyshire, DE74 2DA; or*
- *emailed to technical@igem.org.uk.*

These 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 imply acceptance of liability for the consequences and does not relieve the responsible engineer of any of their obligations."

7.6.7 The month and year of publication shall be included.

7.7 **SCOPE**

7.7.1 The Scope shall define the areas which are covered by the Standard. The scope should be a definitive statement of the type of Standard, the subject being covered and its application. It should be short and succinct and worded to suit its users. Wherever possible, plain English should be used.

Note: Where possible, it is preferable not to define exclusions.

7.7.2 Where IGEM Standards quote gauge pressures, the following shall be included in the Scope:

"Pressures quoted are gauge pressures unless otherwise stated."

7.7.3 Italicised text and Appendices are informative. The following shall be included in the Scope as two separate clauses:

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

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

7.7.4 Where reference is made to heat input (appliance Standards) the following shall be included in the Scope:

"All heat inputs are net heat inputs unless otherwise stated."

7.8 **LEGAL AND ALLIED CONSIDERATIONS**

7.8.1 This Section describes any relevant Legislation and Standards applicable to the document. The following shall be included:

"This Standard is set out against a background of Legislation in force in GB at the time of publication (see Appendix 2). The devolution of power to the Scottish, Welsh and Northern Ireland Assemblies means that there may be variations to the Legislation described below for each of them and consideration of their particular requirements is to be made. Similar considerations are likely to apply in other countries and reference to appropriate national Legislation will be necessary.

All relevant Legislation is required to be complied with and relevant Approved Codes of Practice (ACoPs), official Guidance Notes and referenced codes, Standards, etc. are to be taken into account.

Care is to be taken to ensure that the latest editions of the relevant documents are used.

Appendix 2 lists Legislation, Guidance Notes, Standards etc. which are identified within this Standard. Where Standards are quoted, equivalent national or international Standards etc. equally may be appropriate. Unless otherwise stated, the latest version of the referenced document should be used."

Note: If the legislation has been amended include the term "(as amended)" after the year e.g., Health and Safety at Work etc. Act 1974 (as amended).

7.8.2 The relevant legal requirements shall be outlined. However, the inclusion of any legislation that is not specifically referred to in a Standard should be kept to the minimum.

7.8.3 Primary Legislation shall be listed first in alphabetical order followed by secondary Legislation, also in alphabetical order.

Note 1: In the UK, Acts are primary Legislation and Regulations are secondary Legislation.

Note 2: If a Standard covers specific Legislation, then it is to be listed first in this Section.

7.9 **OTHER SECTIONS**

7.9.1 Other Sections shall be added as identified by the Panel. This may include, but is not restricted to, information on subjects such as:

- preparation, planning and design
- health, safety and environmental issues
- risk assessment
- site operations (including construction activities/ commissioning/ maintenance / servicing etc.)
- records and reporting
- gas supplies
- ancillary information and equipment
- training and accreditation.

7.9.2 Where Tables and Figures represent formal requirements, these shall be specifically referenced in the main Sections via the prescriptive terms "must", "shall" or "should".

7.10 **APPENDICES**

7.10.1 **General**

7.10.1.1 These can contain any additional information to support the main body of the Standard such as Tables, Diagrams, Calculations and Forms etc. and shall be referred to in the appropriate place in the main Sections.

7.10.2 **Appendix 1**

7.10.2.1 This shall contain definitions of terms that are not defined in IGEN/G/4 or IGEN/G/1, acronyms and abbreviations, units, symbols and subscripts as appropriate and listed in alphabetical order.

a) It shall contain the words:

Industry accepted definitions are contained in IGEN/G/4 which is freely available by downloading a printable version from IGEN's website, www.igem.org.uk.

- b) It shall contain the words, if applicable;

The definitions listed below are relevant to the use of this Standard.

- c) It shall contain the words, if applicable:

Recommended and legacy gas metering arrangements are given in IGEM/G/1 which is freely available by downloading a printable version from IGEM's website, www.igem.org.uk."

7.10.2.2 Within the glossary each new list shall end with a full stop.

7.10.3 **Appendix 2**

It shall contain the words, if applicable:

"This Standard is set out against a background of Legislation in force in GB at the time of publication (see Appendix 2). The devolution of power to the Scottish, Welsh and Northern Ireland Assemblies means that there may be variations to the Legislation described below for each of them and consideration of their particular requirements is to be made. Similar considerations are likely to apply in other countries and reference to appropriate national Legislation will be necessary.

All relevant Legislation is required to be complied with and relevant Approved Codes of Practice (ACoPs), official Guidance Notes and referenced codes, Standards, etc. are to be taken into account.

Care is to be taken to ensure that the latest editions of the relevant documents are used.

7.10.3.1 This Appendix shall be broken down into bulleted lists (in alphabetical order) of:

- Primary Legislation
- Secondary Legislation
- European Legislation
- HSE ACoPs and Guidance
- IGEM
- British Standards Institution (abbreviated titles)
- Liquid Gas UK
- Miscellaneous (abbreviated titles).

7.11 **BACK COVER**

7.11.1 The cover page shall contain:

- communication number
- price code
- IGEM address
- technical department telephone number and email address
- website address
- charity number.

Note: An example is provided in Appendix 3.

SECTION 8 : STYLE AND LAYOUT

8.1 GENERAL

8.1.1 These conventions shall be followed to standardise the appearance.

8.1.2 A4/A5 page layout shall be used as appropriate.

8.1.3 The typeface shall be Verdana and Justified throughout unless otherwise stated below.

Note: Justified text may result word spacing being unacceptable in this case text to be justified to the left.

8.1.4 The typographical style throughout the document (i.e., except for the front cover, inside front cover, copyright page and back cover) shall be as detailed in Table 1.

ELEMENT	TEXT	POSITION	OTHER
Top margin		1.5 cm from top	
Bottom, left and right margin		2 cm from bottom, left and right	
Headers Cover pages		1.02 cm	IGEM Logo left
Headers from copyright page	8pt	0.75 cm	Standard title on every page
Footers Cover pages		1.27 cm	IGEM Crest, Standards logo-Crest and address
Footers	8pt	0.5 cm	On every page the text included as follows: "©IGEM, IGEM House, 26 & 28 High Street, Kegworth, Derbyshire, DE74 2DA. Website: www.igem.org.uk "
Page numbers	10pt	Centred in footer above address	
Section headings (Level 1)	12pt, Bold, Capitals	If 2 lines or more align appropriately	Aligned left, no full point at end, No spacing before, 12pt spacing after e.g., SECTION 1 : INTRODUCTION
Sub-section heading (Level 2)	10pt, Bold, Capitals	2.5 cm hanging indent	No full point at end e.g., 1.1 DESIGN
Sub-section/clause numbering	10pt	0 cm indent	
Clause heading (Level 3)	10pt, Bold upper/lower case	2.5 cm hanging indent	No full point at end e.g., 1.1.1 Temperature
Sub-clause heading (Level 4)	10pt, Italics upper/lower case	2.5 cm hanging indent	No full point at end e.g., 1.1.1.1 <i>Low temperature</i>
Clause	10pt	2.5 cm hanging indent	Paragraphs under the same clause spaced at 10pt
Note	8pt, Italics	2.5 cm indent with 1.5 cm hanging indent	8pt spacing before 10pt spacing after 8pt spacing between Notes
Table title	10pt, Bold, Capitals	2.5 cm indent If 2 lines or more align appropriately	Aligned left, no full point at end e.g., TABLE 1 – RELATIVE PRESSURE
Table column heading	10pt, Bold, Capitals	Aligned as required to suit content	Usually centred
Table text	10pt usually*	Aligned as required to suit content	*Size may need to change to suit content <i>Note: See Sub-Section 8.6 regarding: shading in Tables</i>
Figure title	10pt, Bold, Capitals	2.5 cm indent If 2 lines or more align appropriately	Ranged left, no full point at end e.g., FIGURE 1 – TYPICAL LAYOUT

Note: Text alignment is required to be justified, however there will be occasions the text needs to be aligned left to ensure that the presentation of the text is acceptable.

TABLE 1—TYPOGRAPHICAL STYLE

8.2 **HYPHENATION**

Non-breaking hyphens shall be used (see Sub-Section 8.4).

8.3 **DASHES**

A large “Em” – dash (largest) is to be used to separate a Figure or Table number from the title. NB: This can be set using Autoformat in Word.

An “En” dash (medium) is to be used – when replacing the word “to” i.e., 2-3.

Note 1: By default, autoformatting options will be enabled in MS word, however if you want to enable it click File -> options -> proofing -> autocorrect options -> auto format -> enable the ones dash and hyphens.

Note 2: To create an “Em” dash in autocorrection option type the word and two hyphens “--” and required word without any space and then give a space after the end word, for e.g., “Table 1nospace—nospace Typographic space” will change to Table 1—Typographic.

Note 3: To create an “En” dash in autocorrection option type the first number, then provide single space and single hyphen “-” then space and finishing number and a space, for e.g. From 1space-space10space will change to 1 – 10.

8.4 **NON-BREAKING SPACES**

A non-breaking space shall be used for names, telephone numbers, units of measurement and their values and Standard references. This is to prevent these not been split across two lines.

Note: To provide non-breaking space press “ctrl+shift+space” for e.g., 2.5 bar.

8.5 **QUOTES**

Double quotes shall be used throughout the Standard. The quoted text shall be in italics and the reference to the origin of the quote is to be added as a note unless if it referenced within the clause.

e.g., “ ”

8.6 **TABLES**

Tables shall be used when it is the most efficient way of presenting information. They shall be referred to in the text – at least once in the most appropriate position. If referenced table is not in the section that the reference appears, then the reference should be made to appropriate section and table

When introducing colour, the IGEM palette shall be used. If grey shading is incorporated, it should be at 15%.

Blank cells in the table should be filled in with 15% grey shading or colour from the IGEM palette.

Where Landscape orientation is required, headers and footers shall still be in portrait orientation.

If a table runs on to two pages or more, the column headings shall be repeated.

8.6.1 **Table Notes**

Where a note is required to a specific reference in a table, a superscripted number or asterisk should be used.

8.7 FIGURES

- 8.7.1 Figures should be drawn/manipulated in a high-quality graphic design package. If referenced figure is not in the section that the reference appears, then the reference should be made to appropriate section and figure.
- 8.7.2 Figures should be placed into the document using the appropriate quality and extension.
- 8.7.3 Where a note is required to a specific reference in a figure, the reference needs to be clearly identified in the figure.

8.8 LISTS

8.8.1 Clauses

- 8.8.1.1 Bullets shall be used for lists. A maximum of three levels should be used and sized accordingly:

- 1st level of bullets to be 14pt, 2.5 cm indent with hanging indent of 0.75 cm
 - 2nd level of bullets to be 12pt, indented accordingly
 - 3rd level of bullets to be 10pt, indented accordingly.

Note: No extra line space is required after a colon or in between bullets.

- 8.8.1.2 Letters shall be used for procedures or defined orders. Only one level should be used:

- (a) Sized at 10pt, 2.5 cm indent with hanging indent.

- 8.8.1.3 A full point shall be used at the end of the last bullet of a list.

- 8.8.1.4 Where a list of bullet subjects with explanatory text is required, the Subject title should be in 10pt, bold upper and lower case with the explanatory text proceeding on a new line indented accordingly.

8.8.2 Notes

- 8.8.2.1 Notes shall be used for short pieces of relevant additional information to assist in the understanding of the Standard and immediately follow the clause or table etc. to which it refers.

- 8.8.2.2 Bullets shall be used for lists and sized as 8pt, 2.5 cm indent with hanging indent.

- 8.8.2.3 Where there are multiple Notes, these shall be numbered Note 1, Note 2 etc.

- 8.8.2.4 Prioritised lists within a Note shall be identified using a sequence of letters and sized as 8pt, indented accordingly.

e.g.

Note 1: A sample pieces of information for reader understanding.

Note 2: More information about the discussed clauses.

8.9 EQUATIONS

- 8.9.1 Any formulas should be inserted using an equation editor.

- 8.9.2 If more than one equation is used in a Sub-Section, the equations shall be numbered independently (from Tables and Figures). The numbering shall run consecutively through the section and be presented in brackets, aligned to the right.

- 8.9.3 Equations shall be formatted in such a way as to be easily understood and used in the format prescribed below using an appropriate editor.

$$Q = \frac{7.574 T_s}{P_s \times 10^4} \cdot \sqrt{\frac{(P_1^2 - P_2^2) d^5}{T Z f L S}} \quad (1)$$

Note Equation editor option can be enabled in MS word by keeping the cursor in the target location in document and then click insert-> equations -> insert new equation.

8.10 **ACRONYMS, ABBREVIATIONS, SYMBOLS AND UNITS**

Where a term to be represented by an acronym or abbreviation is used for the first time in the document, the term shall be given in full followed by the acronym or abbreviation in parentheses. Thereafter only the acronym or abbreviation shall be used. When acronyms or abbreviations are required for company names, the convention used by the company shall be adopted.

A symbol is a mark or character used as a representation for a function or a process. Symbols shall be listed in a two-column table format in the Appendix. These terms shall be singular.

Units are used as a form of measurement. The units used in a Standard shall be listed in the Appendix.

8.11 **EXAMPLES**

Example calculations should be included within the Appendices.

8.12 **FULL POINTS**

Full points should not be used in:

- unit symbols, e.g., mm, kg
- acronyms, e.g., GDN
- abbreviated forms of names of organisations, e.g., BSI
- conventional abbreviated terms e.g., PE.

Full points should be used in:

- abbreviated terms using lower case letters, e.g., etc., min. and max.

8.13 **CAPITAL LETTERS**

Initial capital letters shall be used for:

- Proper nouns
- The first word of a heading or a title
- The words Section, Sub-Section, Standard, Figure, Table, Note, Appendix, Regulation, Legislation (but not clause) when referred to in the text by a cross-reference
- Names of organisations, e.g., HSE
- Natural Gas (NG), CNG, LNG and LPG.

8.14 **NUMBERS**

Numbers 1 to 10 should be spelled out except when used in units, equations and lists.

8.15 **SYMBOLS**

Symbols such as % should have a non-breaking space in front of it.

e.g. 99 %
20 °C.

8.16 **PHOTOGRAPHS**

Photographs should be used only when a line drawing is not suitable or available. If photographs are used, then copyright permission must be obtained and a credit added underneath.

Photographs will need a higher degree of resolution for reproduction at the printing stage and will also create larger files which may also be a consideration.

APPENDIX 1 : GLOSSARY, ACRONYMS, ABBREVIATIONS, SYMBOLS AND UNITS

A1.1 GLOSSARY

All definitions except those detailed below are given in IGEN/G/4 which is freely available by downloading a printable version from IGEN's website www.igem.org.uk.

Definitions of terms relevant to this Standard and not to be found in IGEN/G/4 are:

Example term the definition to the example term which, although may be commonly recognised, may mean something different in the context of the body of the Standard. However, a definition in IGEN/G/4 shall not be amended except by the addition of a Note.

A1.2 ACRONYMS AND ABBREVIATIONS

ACoP	Approved Code of Practice
BSI	British Standards Institution
CNG	Compressed Natural Gas
GB	Great Britain
HSE	Health and Safety Executive
IGEM	Institution of Gas Engineers and Managers
ISBN	International Standard Book Number
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
NG	Natural Gas
TCC	Technical Coordinating Committee.

A1.3 SYMBOLS

These are listed in a two-column table format. These terms are to be singular.

%	percentage.
---	-------------

A1.4 UNITS

These are listed in a two-column table format. These terms are to be singular.

kg	kilogram
mm	millimetre
° C	Celsius.

APPENDIX 2 : REFERENCES

This Standard is set out against a background of Legislation in force in GB at the time of publication. The devolution of power to the Scottish, Welsh and Northern Ireland Assemblies means that there may be variations to the Legislation described below for each of them and consideration of their particular requirements is to be made. Similar considerations are likely to apply in other countries and reference to appropriate national Legislation will be necessary.

Care is to be taken to ensure that the latest editions of the relevant documents are used.

Where British Standards etc. are quoted, equivalent national or international Standards etc. equally may be appropriate.

A2.1 PRIMARY LEGISLATION

For example

- *Gas Act 1986 (as amended)*
- *Health and Safety at Work etc. Act (HSWA) 1974 (as amended)*
- *Pipe-lines Act 1962 (as amended).*

A2.2 SECONDARY LEGISLATION

For example

- *Gas Safety (Management) Regulations 1996 (as amended)*
- *Management of Health and Safety at Work Regulations (MHSWR) 1999 (as amended).*

A2.3 HSE ACOPS AND GUIDANCE

For example

- *HSG48 Reducing error and influencing behavior 1999*
- *L80 The Gas Safety (Management) Regulations 1996.*

A2.4 IGEN

For example

- *IGEM/TD/1 Steel pipelines for high pressure gas transmission Edition 6*
- *IGEM/UP/2 Installation pipework on industrial and commercial premises Edition 2*
- *IGEM/UP/19 Design and application of interlock devices and associated systems used with gas appliance installations in commercial catering establishments*
- *IGEM/UP/1101 Guidance on gas installations for the management and staff within educational establishments*
- *IGE/GM/5 Electronic gas volume conversion. Edition 4*

A2.5 BRITISH STANDARDS INSTITUTION (ABBREVIATED TITLES)

For example

- *BS 1179 Glossary of terms used in the gas industry*
- *BS 1640 Steel butt-welding pipe fittings superseded*
- *BSI/BS-0 Rules for the structure and drafting of UK standards.*

Note: If the year of publication is specifically relevant to the Standard, then it can be included

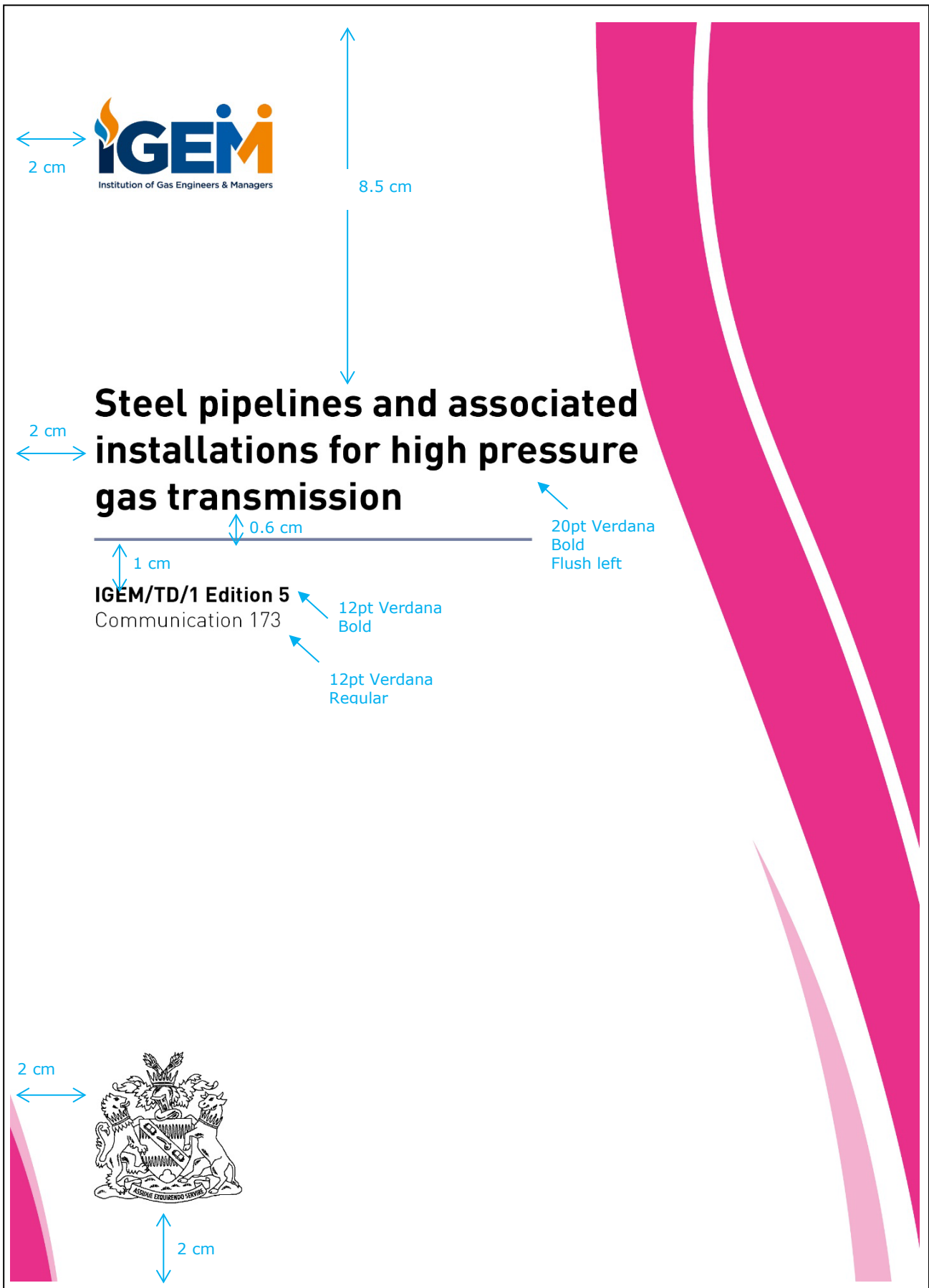
MISCELLANEOUS (ABBREVIATED TITLES).

For example

- *Lilwal, R.C. Seismicity and seismic hazard in Britain. Seismol Bull. Inst. Geology. Sci., No 4*
- *Dowrick, D.J. Earthquake risk and design ground motions in the UK offshore area. Proc. Inst. Civ. Engrs., Part 2, 1981, 71, June.*

APPENDIX 3: COVER PAGES

A3.1 FRONT COVER





2 cm



***IGEM/XXXX/XX
Communication XXXX***

12pt Verdana
italic Bold

20pt Verdana
italic Bold
Flush left

2 cm



TITLE Pressure regulating installations for additional requirements for new PRIs to be used for the transmission of hydrogen, including Natural Gas/hydrogen blended mixtures and for the repurposing of Natural Gas PRIs for hydrogen service

Draft after Comment

16pt Verdana
italic
Bold

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2 cm



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

10pt Verdana
italic
Flush left



2 cm



2 cm



10pt Verdana

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Communication 1530 (1993) – 3rd Edition
Communication 1670 (2001) – 4th Edition

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A3.4 **BACK COVER**



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APPENDIX 5 : CHECKLIST FOR THE OUTLINE STRUCTURE OF THE STANDARD

ORDER OF ELEMENTS	CONTENT OF ELEMENTS	COMMENTS	✓
Front Cover	Short title and edition		
	Communication number		
	Full title		
	IGEM logo, Standards seal and crest		
Title Page	Short title and edition		
	Communication number		
	Full title		
	IGEM logo and crest		
	Price code		
	Address inc. Email and telephone numbers		
Publishing/Copyright information (after the title page)	Publication date		
	Previous editions		
	Registered charity number		
	ISBN number		
	Copyright statement		
	Website information		
Contents	Detailed listing including Figures, Tables, Appendices		
1. Introduction	Informative text, Tables, Figures etc.		
2. Scope	Informative text, Tables, Figures etc.		
3. Legislation and Standards	Relevant Regulation requirements		
Other Sections as appropriate	Formal requirements, Tables, Figures etc.		
Appendix 1	Glossary, acronyms, abbreviations, symbols and units		
Appendix 2	References		
Other Appendices as appropriate	Informative text, Tables, Figures etc.		
Back cover page	Communication number		
	Price code		
	IGEM address		
	Technical department telephone number and email address		
	Website address		
	Charity number		

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APPENDIX 6 : COLOUR PALETTE FOR STANDARD COVERS

IGEM Standards are primarily published in eight series. Each of these series has a colour assigned to it and new and revised Standards are published with their covers in these colours.

The assigned colours are as follows:

- Transmission and Distribution (TD) – Lustralux Cast Coated Pink 250 g m⁻²
- Gas Legislation (GL) – Lustralux Cast Coated Light Blue 250 g m⁻²
- Utilisation (UP) – Lustralux Cast Coated Blue Metallic 250 g m⁻²
- Gas Measurement (GM) – Lustralux Cast Coated Red 250 g m⁻²
- Safety (SR) – Lustralux Cast Coated Yellow 250 g m⁻²
- General (G) – Lustralux Cast Coated Green 250 g m⁻²
- Industry Guidance (IG) – Specific design cover 250 g m⁻²
- Hydrogen (H) – Purple cover 250 g m⁻².

The colour codes which correspond to these covers are:

- (TD) Pink – PMS 1895c
- (GL) Light Blue – PMS 297c
- (UP) Blue Metallic – PMS 5425c
- (GM) Red – PMS 485c
- (SR) Yellow – PMS Process Yellow
- (G) Green – PMS 348c
- (IG) specific design to IGEM palette
- (H) Purple – PMS 2603C.

APPENDIX 7 : CHECKLIST FOR PUBLISHING A STANDARD

ORDER OF ELEMENTS	CONTENT OF ELEMENTS	COMMENTS	✓
Technical administration	Signed approval to publish form (see Appendix 8)	See Guidelines 025	
	Communication number		
	ISBN number		
	Price code		
Printing quotes	Obtain multiple quotes	Look for at least 3 different quotes	
	Check paper thickness and colour		
	Obtain PDF proof and peruse	Make sure pages begin in the right places and look for typographical errors etc.	
	Ensure there are multiple signings off for the proof		
	Record prices in a designated area		
Panel and library copies	Panel secretary needs to state how many copies they require for the Panel and these should be ordered direct to IGEM House		
	IGEM to hold three copies in the technical library		
	Copy to be sent to the British Library and 5 copies to Scottish Library		
General	Update Standards list		
	Provide updated Standard list to comms department for inclusion on the website		
	Update the shop on website		
	Update online license calculator		
	Provide copy to the online licensees		
	Ensure latest version is in the appropriate Panel folder		
Records	The record of the Panel work and published Standard is to be maintained as required in the relevant records management procedure		
Register the ISBN number with Neilson for copyright	Go to Neilson website and follow the guidelines 019.		

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APPENDIX 8 : PERMISSION TO PUBLISH TECHNICAL DOCUMENTS

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Date: xx/xx/2022

PERMISSION TO PRINT (FORM TS-PP-1)

TITLE OF MATERIAL TO BE PUBLISHED: xxxxxx xxxxxxxx xxxxxxxx

IGEM/XX/4

FINAL VERSION REFERENCE: DRAFT FOR APPROVAL AND PUBLICATION

This draft publication has been approved by xxxx Panel Chair for TCC/GTDC/GMC/GUC/LNG/Hydrogen Committee and xxxx Committee Chair for TCC/GTDC/GMC/GUC/LNG/Hydrogen Committee (copies of approval attached).

After careful consideration, the above document has been approved to be published in hard copy and/or electronic format.

Additional notes:

Head of Technical Services
Signature
Date

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