IGEM
Institution of
Gas Engineers & Managers

IGEM/GL/5 Edition 3
Communication 1783

Managing new works, modifications and repairs

Founded 1863
Royal Charter 1929
Patron: Her Majesty the Queen

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Price Code: C3S

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ISBN 978 1 905903 59 7
ISSN 0367 7850
Published by the Institution of Gas Engineers and Managers

Previous Publications:
Communication 1630 (1996) – 1st Edition
Communication 1715 (2005) – 2nd Edition

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SECTION 1 : INTRODUCTION

1.1 This Standard supersedes IGE/GL/5 Edition 2, Communication 1715, which is obsolete. It has been drafted by an Institution of Gas Engineers and Managers (IGEM) Panel appointed by IGEM's Gas Transmission and Distribution Committee. It has been approved subsequently by that Committee, the Gas Utilization Committee, the Gas Measurement Committee and IGEM's Technical Co-ordinating Committee on behalf of the Council of IGEM.

1.2 This Standard is part of a series of IGEM publications which were developed initially to provide practical guidance to support the Gas Safety (Management) Regulations (GS(M)R) and the Pipelines Safety Regulations (PSR).

1.3 Whilst still applicable to comply with GS(M)R and PSR, this minimum standard of documented procedures for managing new works, modifications and repairs to any plant or system associated with the supply of fuel gas is to be implemented to ensure compliance with the Pressure Systems Safety Regulations (PSSR), the Dangerous Substances and Explosive Atmospheres Regulations (DSEAR), the Electricity at Work Regulations (EWR), and the Control of Major Accident Hazard Regulations (COMAH) where applicable. This Standard applies to other plant and systems, for example control systems and software. It supplements guidance given in L122.

1.4 IGEM has adopted the terms and definitions used in European Standards for pressure which include maximum operating pressure (MOP), operating pressure (OP), maximum incidental pressure (MIP) and strength test pressure (STP). Under PSSR the User has to specify the Safe Operating Limit (SOL) of the pressure system. For the purposes of this Standard SOL is equivalent to the MIP. Further guidance can be found in IGEM/TD/13.

1.5 This Standard makes use of the terms "must", "shall" and "should", when prescribing particular requirements. Notwithstanding Sub-Section 1.7:

- 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.

1.6 The primary responsibility for compliance with legal duties 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.

Note: For the purpose of this Standard, a design house can be an employer.

1.7 Employers must:

- have done everything to ensure, so far as it 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 professional judgement. When "responsible engineers" are asked to undertake tasks which deviate from this they should refer the matter for higher review.

1.8 Notwithstanding Sub-Section 1.5, this Standard does not attempt to make the use of any method or specification obligatory against the judgement of the "responsible engineer". New and improved practices may be adopted prior to this Standard being updated. Amendments to this Standard will be issued when necessary and their publication will be announced in the Journal of the Institution and elsewhere as appropriate.

1.9 Requests for interpretation of this Standard in relation to matters within the scope, but not precisely covered by the current text, be addressed in writing to Technical Services, IGEM, IGEM House, High Street, Kegworth, Derbyshire, DE74 2DA, or emailed to technical@igem.org.uk, 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.

1.10 This Standard was published in December 2015.

SECTION 2 : SCOPE

2.1 This Standard is for the management and control of new works, modifications and repairs to assets associated with the supply of fuel gas such as Natural Gas (NG), Bio-gas (including Biomethane), Liquefied Natural Gas (LNG), Liquefied Petroleum Gas (LPG) and LPG/Air. This Standard applies to assets within the scope of GS(M)R, PSR, DSEAR, EWR, COMAH and PSSR.

Note 1: The principles of this Standard may be applied for assets using other gases.

Note 2: The properties of the fuel gas in question will need to be recognised and taken into account during the design, construction, commissioning, modification and repair of the asset.

Note 3: Application of this Standard is only required where the intended modification is relevant, in compliance with the Regulations listed above.

2.2 This Standard encompasses all disciplines (mechanical, electrical, cathodic protection, instrumentation and control, civil engineering and structural work, safety and software) and applies to in-house, outsourced and third party activities.

2.3 This Standard applies to:

- all gas transportation systems up to and including the emergency control valve (ECV), of MOP exceeding 2 bar, or with slam-shut protective devices set at a pressure exceeding 2.7 bar, and including metering, pressure reduction and pressure control and associated equipment

  Note: Refer to Schedule 1 of PSSR.

- all gas storage systems of MOP exceeding 0.5 bar
- all other pressure vessels of MOP exceeding 0.5 bar and in excess of 250 bar litres, and their associated pipework, including those within meter installations pipework (including primary meter installations)
- all electrical, instrumentation and control systems (including any associated software) in connection with gas, transportation or storage, irrespective of any PSSR and/or Hazardous Area Zone classification

  Note: The User/Asset Owner/Asset Manager may exclude electrical installations within non-operational buildings.

- the relationship between different Asset Owners and the process of joining those assets.

  Note: Applying the principles of IGEM/GL/5 will enable Users/Asset Owners/Asset Managers to comply with the Design and Development section of BS EN ISO 9001.

2.4 This Standard defines the way in which approval is sought and obtained for carrying out new works, modifications or repairs on relevant assets.

Note: The User/Asset Owner/Asset Manager may consider the extent to which the term ''asset'' applies.

2.5 This Standard is not intended to apply to routine maintenance carried out in accordance with a method statement approved by the User/Asset Owner/Asset Manager. However, it may be used in such cases for records purposes and to ensure traceability of components.

Note: Appendix 6 lists examples of such activities.

2.6 All pressures are gauge pressures unless otherwise stated.

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

2.8 The terms used in this Standard are defined in Appendix 1.

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