



Design, construction and installation of gas service pipes

Pipelines Safety Regulations 1996



APPROVED CODE OF PRACTICE AND GUIDANCE

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**APPROVED CODE OF PRACTICE
AND GUIDANCE**

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HSE BOOKS

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This Code has been approved by the Health and Safety Commission, with the consent of the Secretary of State. It gives practical advice on how to comply with the law. If you follow the advice you will be doing enough to comply with the law in respect of those specific matters on which the Code gives advice. You may use alternative methods to those set out in the Code in order to comply with the law.

However, the Code has a special legal status. If you are prosecuted for breach of health and safety law, and it is proved that you did not follow the relevant provisions of the Code, you will need to show that you have complied with the law in some other way or a court will find you at fault.

The Regulations and Approved Code of Practice (ACOP) are accompanied by guidance which does not form part of the ACOP. Following the guidance is not compulsory and you are free to take other action. But if you follow the guidance you will normally be doing enough to comply with the law. Health and safety inspectors seek to secure compliance with the law and may refer to this guidance as illustrating good practice.

Contents

Notice of Approval (iv)

Introduction 1

Part I Introduction 5

Regulation 1 Citation and commencement 5

Regulation 2 Interpretation 5

Regulation 3 Meaning of "pipeline" 6

Regulation 4 Application 7

Part II General 7

Regulation 5 Design of a pipeline 7

Regulation 6 Safety systems 9

Regulation 7 Access for examination and maintenance 9

Regulation 8 Materials 10

Regulation 9 Construction and installation 10

Regulation 10 Work on a pipeline 11

Regulation 11 Operation of a pipeline 12

Regulation 12 Arrangements for incidents and emergencies 12

Regulation 13 Maintenance 12

Regulation 14 Decommissioning 13

Regulation 15 Damage to pipeline 13

Regulation 16 Prevention of damage to pipelines 13

Regulation 17 Co-operation 13

Appendix 1 Information on training and qualifications 14

Appendix 2 Summary of legislation 16

Appendix 3 List of related ACOPs, guidance and technical standards
etc 18

Notice of Approval

By virtue of section 16(1) of the Health and Safety at Work etc Act 1974, and with the consent of the Secretary of State for Environment, the Health and Safety Commission has on 21 February 1996 approved a Code of Practice entitled *Design, construction and installation of gas service pipes*.

The Code of Practice gives practical guidance with respect to the Pipelines Safety Regulations 1996 (SI 1996 No 825), with regard to operational and technical practices in the safe design, construction/installation, operation, maintenance and decommissioning of natural gas service pipes, intended to operate up to a maximum pressure of 7 bar gauge.

The Code of Practice comes into effect on 3 June 1996.

Signed

T A GATES
Secretary to the Health and Safety Commission

24 May 1996

Introduction

1 Each relevant regulation of the Pipelines Safety Regulations 1996 (SI 1996/825) is reproduced, followed by the ACOP which the Health and Safety Commission (HSC) has approved under section 16(1) of the Health and Safety at Work etc Act 1974 and other guidance on compliance. The guidance is set out in terms of broad principles. All legislation referred to in this ACOP is published separately.

2 For convenience, the text of the Regulations is included in *italic* type, with the accompanying guidance in medium type and the ACOP in **bold** type.

3 Reference in this Code of Practice to another document does not imply approval by HSC of that document except to the extent necessary to give effect to this Code of Practice.

4 Words and expressions which are defined in the Health and Safety at Work etc Act 1974 and the Management of Health and Safety at Work Regulations 1992 have the same meaning in this Code of Practice unless the context requires otherwise. Any reference to standards is a reference to any of the following which are current at the time of the work activity:

- (a) a British Standard;
- (b) a relevant standard or code of practice of a national standards body of any member state of the European Union (EU);
- (c) any relevant international standard recognised for use as a standard in any member state of the EU;
- (d) a relevant technical specification acknowledged for use as a standard by a public authority of any member state of the EU;
- (e) traditional procedures of manufacture of a member state of the EU where these are the subject of a written technical description sufficiently detailed to permit assessment of the goods or materials for the use specified;
- (f) a specification sufficiently detailed to permit assessment for goods or materials of an innovative nature (or subject to innovative processes of manufacture such that they cannot comply with a recognised standard or specification) and which will fill the purpose provided by the specified standard, provided that the proposed standard, code of practice, technical specification or procedure of manufacture provides, in use, equivalent levels of safety, suitability and fitness for purpose to those achieved by the standard to which it is expressed to be equivalent.

Scope

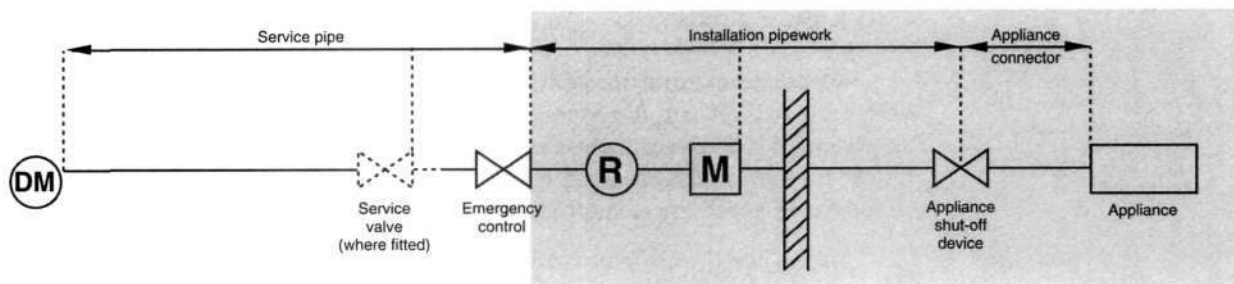
5 The Code of Practice applies to all service pipe installations with a maximum operating pressure of up to 7 bar gauge which connect to a natural gas distribution main operated by a public gas transporter (PGT). Installations will vary in size and relative complexity from small diameter, owner-installed polyethylene services to large diameter steel services, installed by contractors. Services may operate at pressures up to 7 bar and cover a range of diameters and materials. Service pipe installation designers should give due consideration to the operating pressure and required gas flow when applying this ACOP.

Figure 1 illustrates some typical installations.

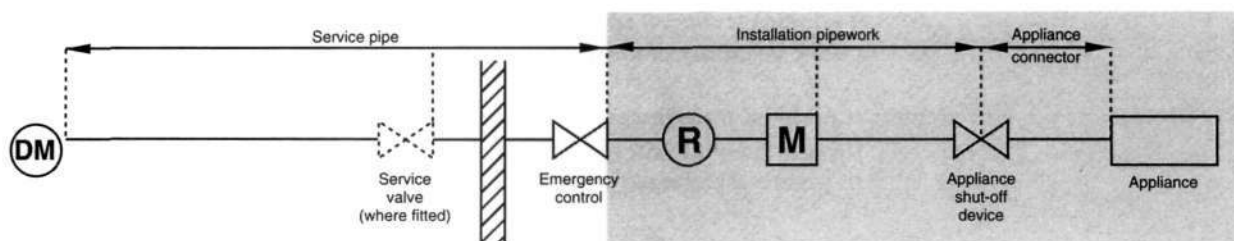
Figure 1 Typical installations

Note: These simplified installation diagrams are only intended for use as an aid to identify and indicate the relative positions of components described in the Gas Safety (Installation and Use) Regulations 1994 (as amended) (shaded right-hand half of diagrams) and the Pipelines Safety Regulations 1996 (left-hand half).

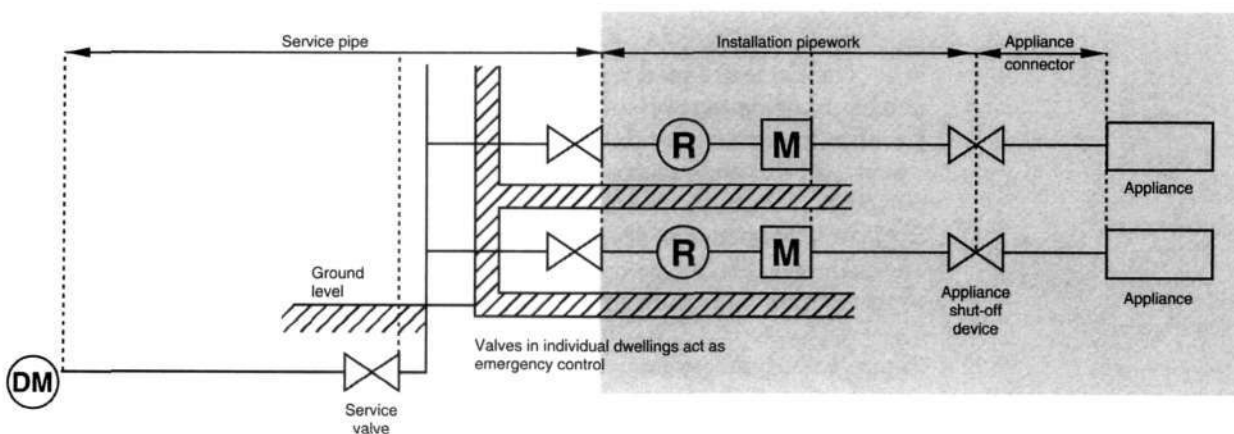
(a) Outside meter installation



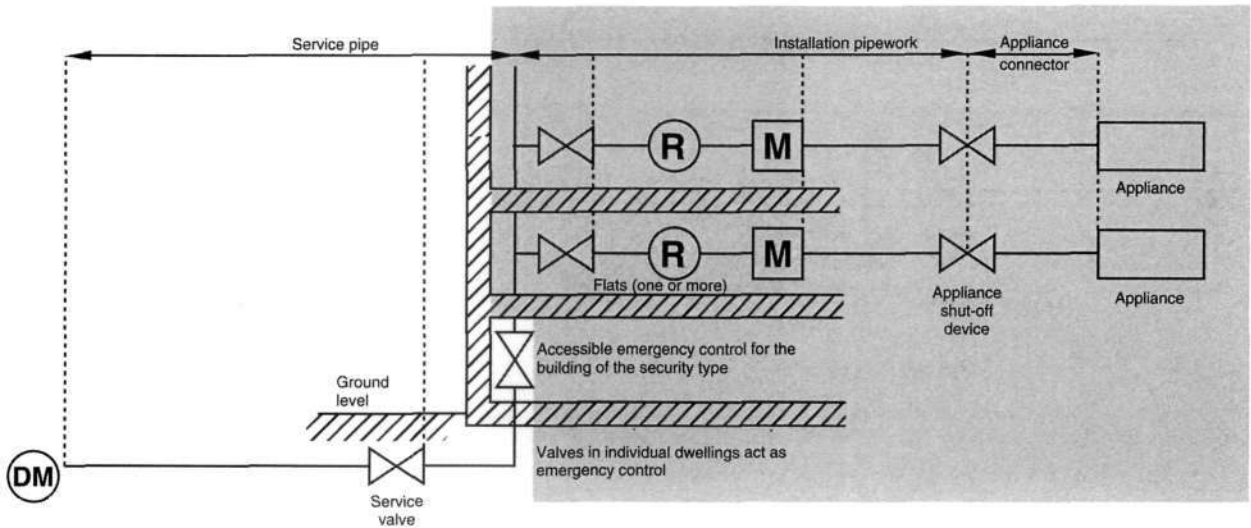
(b) Inside meter installation



(c)(i) Multi-occupancy installation - external riser

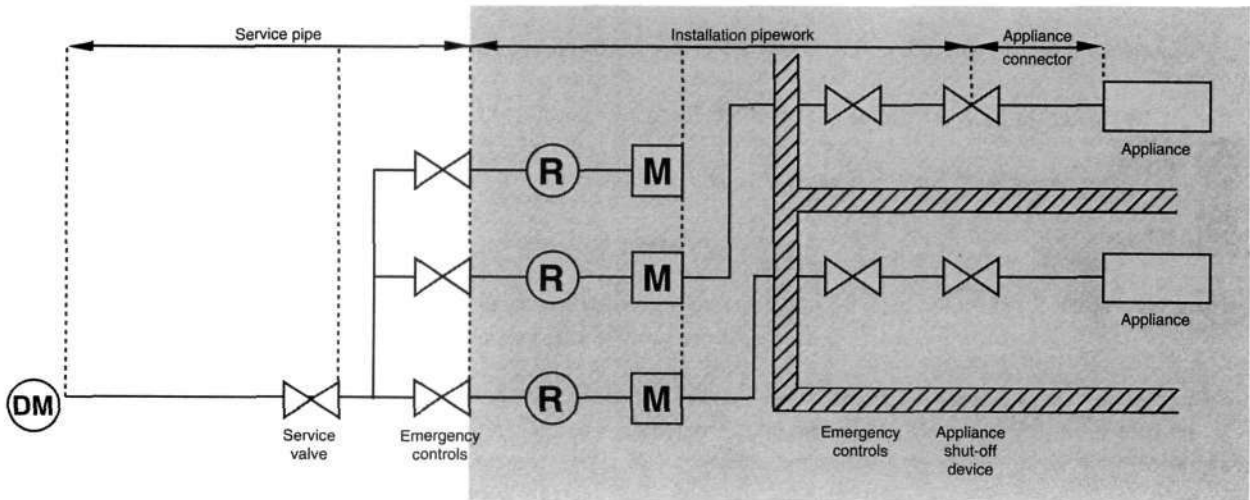


(c)(ii) Multi-occupancy installation - internal riser

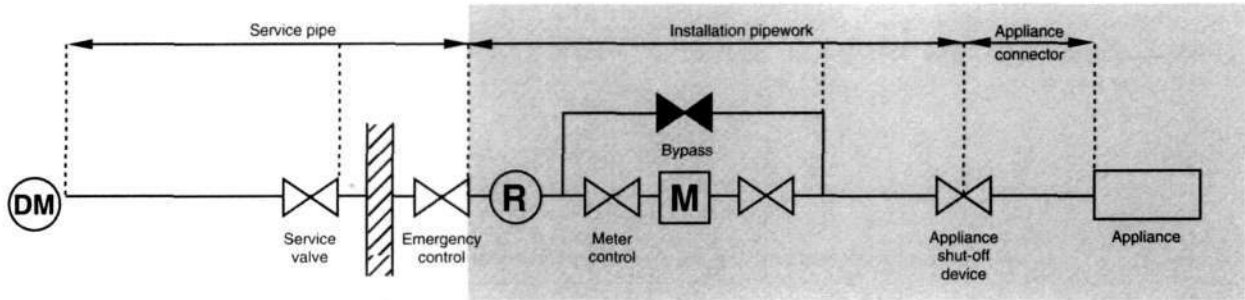


Note: August 2008: Figure 1(c)(ii) depicts a legacy arrangement which is no longer recommended. The valve labelled 'Accessible emergency control for the building of the security type' should be relabelled 'Installation Isolation Valve (IIV)' and the Service pipe arrow should be extended to the right to show that the network ends at the outlet of the emergency controls in the individual dwellings. See Figure 6 of IGE/G/I *Defining the end of the Network, a meter installation and installation pipework* Institution of Gas Engineers and Managers 1996 ISBN 978 0 7177 0102 5

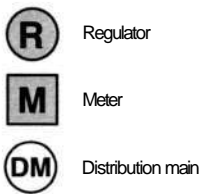
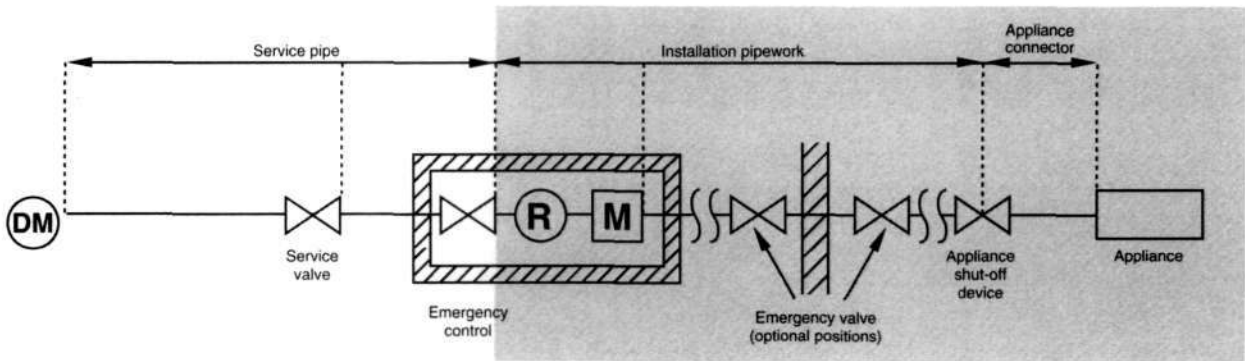
(d) Multi-occupancy installation (remote meters)



(e) Meter with bypass, eg industrial/commercial



(f) Meter remote from premises, eg meter houses



Part I Introduction

Regulation 1

Regulation 1

Citation and commencement

These Regulations may be cited as the Pipelines Safety Regulations 1996 and shall come into force on 11th April 1996.

Regulation 2

Interpretation

(1) *In these Regulations, unless the context otherwise requires -*

"dangerous fluid" has the meaning given by regulation 18(2);

"emergency shut-down valve" means a valve which is capable of adequately blocking the flow of fluid within the pipeline at the point at which it is incorporated;

"the Executive" means the Health and Safety Executive;

"fluid" includes a mixture of fluids;

"local authority" means -

(a) *in relation to England, a county council, a council having the functions of a county council, the London Fire and Civil Defence Authority, a metropolitan county fire and civil defence authority, or the Council for the Isles of Scilly;*

(b) *in relation to Scotland, the council for a local government area; and*

(c) *in relation to Wales, a county council or a county borough council;*

"major accident" means death or serious injury involving a dangerous fluid;

"major accident hazard pipeline" has the meaning given by regulation 18(1);

"operator", in relation to a pipeline means-

(a) *the person who is to have or (once fluid is conveyed) has control over the conveyance of fluid in the pipeline;*

(b) *until that person is known (should there be a case where at a material time he is not yet known) the person who is to commission or (where commissioning has started) commissions the design and construction of the pipeline;*

(c) *when a pipeline is no longer, or is not for the time being used, the person last having control over the conveyance of fluid in it;*

"pipeline" shall be construed in accordance with regulation 3.

(2) *Unless the context otherwise requires, any reference in these Regulations to -*

(a) *a numbered regulation or Schedule is a reference to the regulation or Schedule in these Regulations so numbered; and*

(b) *a numbered paragraph is reference to the paragraph so numbered in the regulation or Schedule in which the reference appears.*

Regulation 3

Meaning of "pipeline"

Regulation

(1) Subject to the provisions of this regulation, in these Regulations "pipeline" means a pipe or system of pipes (together with any apparatus and works, of a kind described in paragraph (2), associated with it) for the conveyance of any fluid, not being -

- (a) a drain or sewer;
- (b) a pipe or system of pipes constituting or comprised in apparatus for heating or cooling or for domestic purposes;
- (c) a pipe (not being apparatus described in paragraph (2)(e)) which is used in the control or monitoring of any plant.

(2) The apparatus and works referred to in paragraph (1) are -

- (a) any apparatus for inducing or facilitating the flow of any fluid through, or through a part of, the pipe or system;
- (b) any apparatus for treating or cooling any fluid which is to flow through, or through part of, the pipe or system;
- (c) valve, valve chambers and similar works which are annexed to, or incorporated in the course of, the pipe or system;
- (d) apparatus for supplying energy for the operation of any such apparatus or works as are mentioned in the preceding sub-paragraphs;
- (e) apparatus for the transmission of information for the operation of the pipe or system;
- (f) apparatus for the cathodic protection of the pipe or system; and
- (g) a structure used or to be used solely for the support of a part of the pipe or system.

(3) For the purpose of sub-paragraph (c) of paragraph (2) a valve, valve chamber or similar work shall be deemed to be annexed to, or incorporated in the course of, a pipe or system where it connects the pipe or system to plant, an offshore installation, or a well.

(4) A pipeline for supplying gas to premises shall be deemed not to include anything downstream of an emergency control.

(5) In this regulation -

"emergency control" means a valve for shutting off the supply of gas in an emergency, being a valve intended for use by a consumer of gas;

"gas" has the same meaning as it has in Part I of the Gas Act 1986^(a).

(a) 1986 c. 44.

3

Guidance

3

6 Where the terms 'gas shipper', 'gas supplier' and 'public gas transporter' are used in this ACOP and guidance, the terms are as defined in the Gas Act 1995.

7 'Distribution main' means any main through which a supplier or transporter is for the time being distributing gas and which is not being used only for conveying gas in bulk.

8 'Installation pipework' means any pipework for conveying gas for a particular consumer and any associated valve or other gas fitting. Installation pipework is not covered by these Regulations.

9 'Service pipe' means a pipe for supplying gas to premises from a distribution main, being any pipe between the distribution main and the outlet of the first emergency control downstream from the distribution main.

10 'Service valve' means a 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 supplier or transporter of gas; and
- (c) not situated inside a building.

Regulation 4

Regulation

Application

(1) *Subject to paragraph (2), these Regulations shall apply -*

- (a) *in Great Britain; and*
- (b) *to and in relation to pipelines and activities outside Great Britain to which sections 1 to 59 and 80 to 82 of the 1974 Act apply by virtue of article 6 of the Health and Safety at Work etc. Act 1974 (Application outside Great Britain) Order 1995^(a).*

(2) *These Regulations shall not apply to any pipeline or part of a pipeline of a kind which is described in Schedule 1.*

(3) *In the case of a pipeline to which the Pressure Systems and Transportable Gas Containers Regulations 1989^(b) apply, nothing in these Regulations shall require the taking of any measures to the extent that they are for the prevention of danger within the meaning of those Regulations.*

(a) *SI 1995/263.* (b) *SI 1989/2169.*

Part II General

Regulation 5

Regulation

Design of a pipeline

The operator shall ensure that no fluid is conveyed in a pipeline unless it has been so designed that, so far as is reasonably practicable, it can withstand -

- (a) *forces arising from its operation;*
- (b) *the fluids that may be conveyed in it; and*
- (c) *the external forces and the chemical processes to which it may be subjected.*

ACOP

11 Each service pipe should be designed to convey natural gas safely from the gas distribution main to the outlet of the emergency control which is immediately upstream of the installation pipework, and in

such a way that it is least likely to be affected by third party interference or subject to accidental damage.

12 Each public gas transporter (PGT) should have conditions and procedures in place for agreeing the design of new service pipes to allow for their safe installation and subsequent addition to their specific network.

13 Technical guidance in the form of recommendations from the Institution of Gas Engineers offers standards recognised across the industry, and is published as IGE/TD/4:1994 Edition 3: *Gas services* and IGE/TD/3:1992 Edition 3: *Distribution mains*. A site design plan should be prepared by the service pipe installation designer for each service pipe installation and contain as much detail as is required to enable the service pipe installer/contractor to undertake and complete the work safely.

14 Design details should be provided to the PGT responsible for the gas distribution system to which the service pipe will be connected.

15 The amount of detail required is likely to vary at different networks according to local conditions, but may include the following:

- a design layout showing the planned location of the connection to the gas distribution main, or other gas service pipe;
- the planned route of the service pipe installation to the premises, including the location of the emergency control, clearly showing the position of the proposed service pipe installation in relation to the foundations of the premises, and that of any void areas;
- the specification of materials and fittings to be used for the service pipe installation, including reference to the relevant standards;
- the planned depth of the gas service pipe installation, including back-fill and support details;
- the specification for any protective sleeving for that section of the service pipe installation which will be placed above ground;
- details and location of other services identified along the route of the proposed service pipe installation, including details of formerly abandoned gas service pipe installations, along with details of any pipe marking arrangements. Advice with regard to identification of ownership of existing apparatus may be obtained, on request, from the relevant street authority, which is usually the local authority;
- qualification and competence requirements for those people to be employed on the installation.

16 Service pipes should be routed so as to minimise the possibility of third party damage. Consideration should be given to the route, the depth of cover, the pipe material and any additional protective measures (such as protective concrete slabs). The route selected should be the shortest route possible, in so far as is reasonably practicable. The service pipe should normally be laid at a minimum depth of 375 mm in private ground and 450 mm in footpaths and highways. Where a lesser depth is proposed, additional protection against third party damage should be considered.

17 The service pipe installation designer should give due regard to any possibility of the accidental connection of service pipes operating at different pressures or to those not conveying natural gas.

Guidance

5

18 With regard to the location of other services generally, the service pipe installation designer should have an understanding of the protocols established by the National Joint Utilities Group (NJUG). Details of the current series are listed in Appendix 3, copies of which are available from the NJUG Secretariat.

19 The service pipe installation designer should be able to demonstrate competence to undertake each specific assignment, underpinned by a knowledge of relevant legislation, and appropriate technical standards.

20 The service pipe installation designer should be aware of the responsibilities under the Construction (Design and Management) Regulations 1994. Brief details are contained in Appendix 2.

21 The service pipe installation designer and service pipe installer/contractor should have an understanding of the New Roads and Streetworks Act 1991, and their respective responsibilities under it, particularly in relation to information required by the relevant street authority as part of the licence application. A brief outline is contained in Appendix 2.

22 Possession of a recognised vocational qualification, coupled with relevant practical experience, would offer a good indication of the competence of an individual service pipe installation designer or installer/contractor. Details of recognised vocational qualifications are listed in Appendix 1.

Regulation 6

Regulation

6

Safety systems

The operator shall ensure that no fluid is conveyed in a pipeline unless it has been provided with such safety systems as are necessary for securing that, so far as is reasonably practicable, persons are protected from risk to their health or safety.

ACOP 6

23 Each service pipe should be provided with an appropriately sited emergency control.

Guidance

6

24 The emergency control should be installed in a readily accessible place; if it is situated in a locked compartment, the occupier of the premises and the system operator/supplier should each be provided with keys. For services supplying more than one primary meter it may be necessary to install an additional isolation valve in the service pipe (eg for multi-occupancy premises).

25 Responsibility for, and access to, this additional valve should be made clear.

26 The position and status of the primary meter is defined in the Gas Safety (Installation and Use) Regulations 1994. Detailed guidance is contained in the Approved Code of Practice *Safety in the installation and use of gas systems and appliances*.

Regulation 7

Regulation

7

Access for examination and maintenance

The operator shall ensure that no fluid is conveyed in a pipeline unless it has been so designed that, so far as is reasonably practicable, it may be examined and work of maintenance may be carried out safely.

Guidance

7

27 The service pipe installation designer, in drawing up plans, should design systems that maintain appropriate distances between services and plant. Detailed guidance on service laying good practice is contained in

Guidance

7

recommendations published by the Institution of Gas Engineers as IGE/TD/4: 1994 Edition 3. Practical guidance on appropriate distances between services operating adjacently is contained in the NJUG publication No 7 *Recommended positioning of utilities mains and plant for new works*.

Regulation 8

Regulation 8

The operator shall ensure that no fluid is conveyed in a pipeline unless it is composed of materials which are suitable.

ACOP

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28 The design plan for the service pipe installation should detail those materials and fittings to be used in its construction, including reference to the appropriate technical standards, required to permit its subsequent safe operation.

Guidance 8

29 The design plan will normally be in accordance with the requirements of the relevant PGT.

Regulation 9

Regulation 9

The operator shall ensure that no fluid is conveyed in a pipeline (save for the purpose of testing it) unless it has been so constructed and installed that, so far as is reasonably practicable, it is sound and fit for the purpose for which it has been designed.

ACOP

9

30 The service pipe should be installed as detailed on the design plan. Where any variation in route or modification in design is proposed, it should be in line with the overall standards and specification agreed at the design stage and, once the installation is completed, the plan should be annotated and dated accordingly.

Guidance

9

31 The installer/contractor should consider the benefits of drawing up a plan of work which might detail:

- how the work would be tackled, including details of site safety arrangements;
- the arrangements for effecting/agreeing changes to the original design;
- quality control aspects, including checking materials and parts for fitness for purpose, prior to installation and fitting;
- arrangement for pre-acceptance checks and pressure tests, including liaison arrangements with the relevant public gas transporter (PGT);
- the system of work for connecting the service pipe to the appropriate distribution main, or other appropriate service pipe installation, including any notification/authorisation requirements of the PGT;
- the arrangements for lodging design details with the PGT on completion of the installation.

32 The relevant PGT should be given advance notice of the proposed date for the installation to be connected to the gas distribution main to enable inspection to be arranged.

33 The service pipe installer/contractor has the responsibility for establishing the competence of all workers to be employed on the installation of gas service

pipes, and that they have the up-to-date skills and recognised competencies to undertake safely all tasks allocated to them. The service pipe installer/contractor should maintain an adequate record of the competence levels of workers to be employed on the installation, including details of qualifications held and the range of work on the installation that they may be assigned to. Similar arrangements apply to a self-employed worker.

34 Appendix 1 shows details of recognised vocational qualifications.

35 Workers who have undergone training in the GD series of qualifications, organised by the Construction Industry Training Board (CITB), will be issued with registration certificates, each bearing a recent photograph of individual workers, and recording their respective level of achievement, which will clearly point to those aspects of the work on which they have been assessed. CITB maintains a central record of all current certificates, enabling details to be verified by contractors. It is also able to replace lost certificates on production of satisfactory evidence.

36 It should be recognised that qualifications are only one indication of competence and that relevant practical experience is also a factor that needs to be considered when assessing an individual worker's ability to do specific tasks.

37 Installers/contractors who employ others should consider looking at ways of encouraging workers to build up their respective skillbase, through a mixture of directed on-the-job training and encouragement and incentive to attend off-the-job training courses.

38 Knowledge and general awareness of the relevant legislation and regulations affecting this area of work is of fundamental importance, as is a practical knowledge of appropriate technical guidance and standards. A summary of some of the key pieces of legislation is contained in Appendix 2. A list of technical guidance is shown in Appendix 3.

39 The service pipe installer/contractor should be aware of the other services laid alongside the service pipe installation, and know how to excavate the area accordingly.

40 The National Joint Utilities Group (NJUG), representing the gas, electricity, telecommunications and water industries, has agreed protocols on co-operation and the sharing of information, including the production of guidance documents. Current guidance material is listed in Appendix 3.

41 Practical guidance on avoiding danger from underground services is contained in the HSE publication HS(G)47.

Regulation 10

Regulation
10

ACOP

Work on a pipeline

The operator shall ensure that modification, maintenance or other work on a pipeline is carried out in such a way that its soundness and fitness for the purpose for which it has been designed will not be prejudiced.

42 **Repairs to gas service pipe installations will be the relevant public gas transporter's (PGT's) responsibility. Where a subsequent modification is proposed to an installed service pipe, the original design plan of each service pipe installation, where available, should be obtained and followed, and where any modification is proposed to the original specification, the design plan should be amended to reflect all agreed changes. The responsibility for holding and retaining such details will rest with the relevant PGT.**

43 Additional care needs to be taken when undertaking work on any 'live' service pipe installation, where it is essential that before any work commences, all meters supplied by the service are identified and the consequences of shutting off the supply to end users should be considered. This is particularly important with regard to multi-occupancy premises where additional emergency controls may have been installed covering the whole building or sections of it.

44 Where any work on the service pipe installation requires disconnection, the interruption of supply should be prearranged with all end-users of the service pipe installation. Care should be taken to maintain electrical continuity when disconnecting a gas service pipe installation, perhaps by using a continuity bond. Prior to reconnection of the same service, it should be pressure tested in accordance with the appropriate standards to ensure that it is still fit for purpose.

45 Before recommissioning, all service pipe installations should be purged. Recommissioning should be undertaken in accordance with the Gas Safety (Installation and Use) Regulations 1994.

10

Regulation 11

Operation of a pipeline

Regulation

The operator shall ensure that -

- (a) *no fluid shall be conveyed in a pipeline unless the safe operating limits of the pipeline have been established; and*
- (b) *a pipeline is not operated beyond its safe operating limits,*

11

save for the purpose of testing it.

Regulation 12

Arrangements for incidents and emergencies

Regulation

The operator shall ensure that no fluid is conveyed in a pipeline unless adequate arrangements have been made for dealing with -

- (a) *an accidental loss of fluid from;*
- (b) *discovery of a defect in or damage to; or*
- (c) *other emergency affecting,*

11

the pipeline.

Regulation 13

Maintenance

Regulation 13

The operator shall ensure that a pipeline is maintained in an efficient state, in efficient working order and in good repair.

Guidance

46 On-going maintenance of gas service pipe installations, once accepted by the PGT, becomes that operator's responsibility, and appropriate arrangements should be made to carry out that responsibility.

13

Regulation 14

Regulation

14

Decommissioning

(1) *The operator shall ensure that a pipeline which has ceased to be used for the conveyance of any fluid is left in a safe condition.*

(2) *The operator of a pipeline shall ensure that work done in discharge of the duty contained in paragraph (1) is performed safely.*

ACOP

14

47 The PGT should always seal off the redundant service pipe installation to render it safe, and consider removal, wherever practicable. The PGT should consider the need to maintain records of those sections of the service pipe network that he has decommissioned, including details of action taken.

Regulation 15

Regulation 15

Damage to pipeline

No person shall cause such damage to a pipeline as may give rise to a danger to persons.

Guidance

15

48 Actions arising from third party interference are the main cause of damage to pipelines leading to loss of containment. In many cases the damage to a pipeline by a third party is accidental; it is important that such damage is always reported to the relevant PGT. It should be recognised that the effects of damage are not always immediate, and that what may appear insignificant could give rise to a dangerous occurrence.

Regulation 16

Regulation 16

Prevention of damage to pipelines

For the purpose of ensuring that no damage is caused to a pipeline, the operator shall take such steps to inform persons of its existence and whereabouts as are reasonable.

ACOP

16

49 PGTs should make available, on request, clear details of the existence and location of relevant service pipe installations, which they hold records of, to other service operators.

Guidance

16

50 The PGT should consider the circumstances under which individual customers might need to be made aware of the general location of service pipes and the implications that existence of the same might have for safety and individual responsibility.

Regulation 17

Regulation

17

Co-operation

Where there are different operators for different parts of a pipeline, each operator shall co-operate with the other so far as is necessary to enable the operators to comply with the requirements of these Regulations.

Information on training and qualifications

(Note: this appendix does not form part of the Code. August 2008: the information in this appendix is not fully current and will be updated in any future revision of this publication.)

1 Training courses in gas work are offered and undertaken by the industry itself, with off-the-job courses for mains gas, offered through colleges of further education (CFEs) and other training providers. Details of what is available in any particular locality may be obtained from individual CFEs, training and enterprise councils (TECs)/ local enterprise companies (LECs) in Scotland, training access points (TAPs), local education authorities (LEAs), and the local careers service. Training arrangements are likely to vary from area to area, and will depend on local requirements and demands, however they will usually offer a balanced programme of on-the-job training linked to day release/block release. Evening classes may also be available. It is important that whichever training package is selected it meets essential requirements. Formal vocational qualifications are a feature of all courses on offer, many of which have now become national vocational qualifications (NVQs).

2 Not all courses are aimed at new entrants to the industry. Short refresher and updating courses are often available. They are particularly useful for those workers who have lots of practical experience, but no formal qualification, possession of which is likely to enable their movement across the industry. Courses designed at updating skills are also available, enabling employers and their employees to keep up to date on technological advances, including the introduction of new and improved standards.

3 Further information can be obtained from:

National Council for Vocational Qualifications (NCVQ)
Building Employers Confederation
Council for the Registration of Gas Installers (CORGI)
Construction Industry Training Board (CITB)
Institution of Gas Engineers (IGE)

Vocational qualifications available

Gas distribution operatives record scheme

4 The scheme is administered by the Construction Industry Training Board (CITB), and offered at several approved training centres in the UK.

5 The scheme applies to all operatives who are employed under the Working Agreement of the Civil Engineering Construction Conciliation Board, and who are involved at any time in installation, maintenance and repair work within the gas distribution sector.

6 The training courses have been developed to supplement on-the-job training and are designed to enable operatives to work safely and competently. The progressive nature of the scheme allows all operatives in the sector the opportunity to progress through the training programme to qualify as team leaders in either service-laying or mains-laying (or both).

7 The training programme envisages an induction phase for all new entrants to the sector followed by a series of separate training courses, each certificated on successful completion, spread over a period of time dependent on the progress of the individual operative and the needs of the job. The service-laying route consists of GD1, GD2 and GD4; the mains-laying route consists of GD1, GD2, GD3 and GD5.

8 CITB also offers a series of short training courses to support the requirements of the New Roads and Streetworks Act 1991.

9 A booklet containing outline details of each of the training courses, including course content, costs and booking arrangements can be obtained from:

Construction Industry Training Board
Bircham Newton Training Centre
King's Lynn
Norfolk PE31 6RH
Tel: 01485 23291

Construction Industry Training Board
Glasgow Training Centre
2 Edison Street
Hillington
Glasgow G52 4XN
Tel: 0141 882 6455

10 General scheme information can be obtained from:

The Federation of Civil Engineering Contractors
Cowdray House
6 Portugal Street
London WC2 2HH
Tel: 0171 404 4020

NVQ level 3: public utilities distribution (natural gas)

11 The qualification comprises of eight compulsory units covering:

- planning distribution systems to meet customer needs;
- preparing and maintaining the site;
- excavating and reinstating on site;
- installing and testing the components of the gas distribution system;
- commissioning/decommissioning gas distribution systems;
- monitoring/maintaining a safe working environment;
- establishing and maintaining effective working relationships;
- contributing to work organisation and quality development of products and services.

A further unit is optional and not essential to the award of the qualification.

Summary of legislation

(Note: this appendix does not form part of the Code.)

HSE legislation

Health and Safety at Work etc Act 1974

1 This Act applies to everyone concerned with work activities, ranging from employers, self-employed, and employees, to manufacturers, designers, suppliers and importers of materials for use at work, and people in control of premises. It also includes provisions to protect members of the public. The duties apply both on individual people and on corporations, companies, partnerships, local authorities, nationalised industries etc. The duties are expressed in general terms, so that they apply to all types of work activity and work situations. Every employer has a duty to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his or her employees. The principles of safety responsibility and safe working are expressed in sections 2-9. Employers and the self-employed are required to carry out their undertakings in such a way as to ensure, so far as is reasonably practicable, that they do not expose people who are not their employees to risks to their health and safety, expressed in sections 3(1) and 3(2). In some areas the general duties have been supplemented by specific requirements laid down in Regulations made under the Act and Regulations containing specific requirements will continue to be made. Specific legal requirements are also laid down in earlier legislation which is still in force. Failure to comply with either the general requirements of the Act, or the specific requirements found elsewhere may result in legal proceedings.

2 Although some of the duties imposed by the Act and related legislation are absolute, many are qualified by the words 'so far as is reasonably practicable' or 'so far as is practicable'. If someone is prosecuted for failing to comply with a duty which is qualified by these words, it is up to the accused to show the court that it was not reasonably practicable, as appropriate, for him to do more than he had done to comply with the duty.

3 The judgement of what is reasonably practicable means weighing up the seriousness of a risk against the difficulty and cost of removing it.

4 Where the difficulty and cost are high and a careful assessment of the risk shows it to be insignificant, it may be that the action is not necessary although in some cases there are things that have to be done at all costs. No allowance is made for size, nature or profitability of the business.

5 Sections 21-23 provide for improvement and prohibition notices to be issued; section 33 provides for prosecution and penalties; section 15 provides for Regulations to be made; sections 16 and 17 provide for Codes of Practice to be approved, and for their use in criminal proceedings.

Management of Health and Safety at Work Regulations 1992

6 The central feature of these Regulations is the duty which is imposed on employers to make a suitable and sufficient assessment of the risks to the health and safety of their employees and of non-employees affected by their work. The Regulations also provide that there must be effective planning and review of protective measures, health surveillance, emergency procedures, information and training.

Gas Safety (Management) Regulations 1996

7 These Regulations deal with the safe management of gas, whether in a single system or a network of connected systems. The Regulations make it unlawful for gas to be conveyed in a system or network without a safety case being prepared by the gas conveyor and then accepted by HSE.

Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995

8 These Regulations require employers to notify certain occupational injuries, diseases and dangerous events. Certain gas incidents are reportable by suppliers of gas through fixed pipe distribution systems. The Regulations came into force on 1 April 1996.

Construction (Design and Management) Regulations 1994

9 These Regulations place duties on clients, designers, planners, supervisors and contractors to take health and safety matters into account and manage them effectively from the planning stages of a construction project through commission and beyond.

Gas Safety (Installation and Use) Regulations 1994

10 These Regulations deal with the installation, maintenance and use of gas systems and appliances in domestic and commercial premises.

Gas Safety (Installation and Use) (Amendment) Regulations 1996

11 These Regulations, as amended, place a ban on the domestic storage of natural gas until appropriate standards and compliance mechanisms are developed. They are also concerned with carbon monoxide (CO) poisoning from poorly installed and/or maintained gas appliances and flues.

Pressure Systems and Transportable Gas Containers Regulations 1989

12 These Regulations apply to those pipelines which constitute a pressure system where the operating pressure is greater than 2 bar gauge.

Other legislation

Gas Act 1995

13 The Gas Act 1995 updates provisions in the Gas Act 1986, including new licensing arrangements for public gas transporters, permitting competition in the domestic gas market.

New Roads and Streetworks Act 1991

14 This Act provides for a licensing arrangement for undertakings to allow for an ordered approach in the laying of services and apparatus in roads and streets. It also provides for details of undertakings to be held by the streetworks authority, for undertakings to co-operate, and for the safe reinstatement of roads etc after works have been completed.

Appendix 3

List of related ACOPs, guidance and technical standards etc

(Note: August 2008: the information in this appendix is not fully current and will be updated in any future revision of this publication)

HSE Approved Codes of Practice

Managing construction for health and safety L54 HSE Books
ISBN 0 7176 0792 5

Standards of training in safe gas installation COP 20 HSE Books
ISBN 0 7176 0603 1

Safety in the installation and use of gas systems and appliances L56 HSE Books
ISBN 0 7176 0797 6

HSE guidance

Avoiding danger from underground services HS(G)47 HSE Books
ISBN 0 7176 0435 7

Avoiding danger from buried services Construction information sheet CIS7

British Gas guidance

Precautions to be taken when carrying out work in the vicinity of underground gas pipes

Institution of Gas Engineers (IGE) recommendations

IGE/TD/3:1992 Edition 3: *Distribution mains*

IGE/TD/4:1994 Edition 3: *Gas services*

IGE/TD/5:1992 *Transport, handling and storage of polyethylene pipes and fittings*

IGE/TD/6:1989 *Transport, handling and storage of steel pipe, valves and fittings*

IGE/TD/10:1986 *Pressure regulating installations for inlet pressures between 75 mbar and 7 bar*

IGE/SR/10:1994 *Procedures for dealing with escapes of gas into underground plant*

IGE/SR/13:1986 *Use of breathing apparatus in gas transmission and distribution*

IGE/SR/18:1990 *Safe working in the vicinity of gas pipelines, mains and associated installations*

Part 1: *Operating at pressures of 2 bar*

Part 2: *Operating at pressures not exceeding 2 bar (in easements, the countryside or a public highway) and pressures exceeding 2 bar (in a public highway)*

IGE/SR/19:1990 *External joint repairs in gas distribution systems*

IGE/SR/20:1992 *Recommendations for dealing with reported gas escapes*

IGE/SR/22:1996 *Purging operations for fuel gases in transmission, distribution and storage*

IGE/SR/23:1996 *Venting of natural gas*

British Standards Institution (BSI) technical standards

BS 1179:1989 *Glossary of terms used in the gas industry*

BS 7281:1990 *Specification for polyethylene pipes for the supply of gaseous fuels*

BS 8010 *Code of practice for pipelines*

National Joint Utilities Group (NJUG) recommendations

NJUG 1 *A brief guide to the New Roads and Streetworks Act 1991* October 1993

NJUG 2 *Provision of mains and services by public utilities on residential estates*
November 1979

NJUG 3 *Cable locating devices* May 1980

- NJUG 4 *The identification of small buried mains and services* April 1995
- NJUG 5 *Model guidelines for the planning and installation of utilities supplies to new building developments* May 1983
- NJUG 6 *Service entries to new dwellings on residential estates* September 1984
- NJUG 7 *Recommended positioning of utilities mains and plant for new works* December 1994
- NJUG 8 *Performance guide for the assessment of metallic pipe and cable locators* August 1985
- NJUG 9 *Recommendations for the exchange of records of apparatus between utilities* July 1994
- NJUG 10 *Guidelines for the planning, installation and maintenance of utility services in proximity to trees* (with operative's laminated guidelines card) April 1995
- NJUG 12 *NJUG Specification for the digitisation of large scale OS maps* (now superseded by OS 1988) 1988
- NJUG 13 *Quality control procedures for large scale OS maps digitised to OS 1988* June 1988
- NJUG 14 *Video 'It's your life' - damage prevention and individual safety* August 1994
- NJUG 15 *NJUG/Ordnance Survey Service level agreements (technical) for digital map products and services* March 1994

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