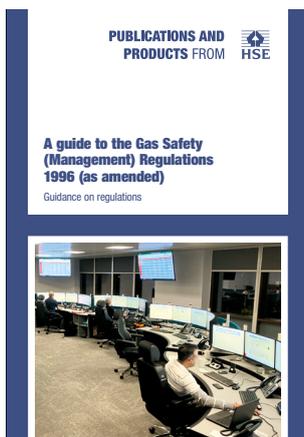


A guide to the Gas Safety (Management) Regulations 1996 (as amended)

Guidance on regulations



L80
Published 2024

This publication provides advice, information and guidance for gas transporters, duty holders and other interested parties which should be followed to ensure compliance with the Gas Safety (Management) Regulations 1996 and the Gas Safety (Management) (Amendment) Regulations 2023.

In particular, it provides guidance on what constitutes a gas network, what information should be included within Gas Safety (Management) Regulations safety cases, the co-operation requirements that are necessary for duty holders to operate a gas network, and processes for the management of gas escapes, including emergency contact provision for the general public.

This third edition has been revised to incorporate the amendments made by SI 2023/284 The Gas Safety (Management) (Amendment) Regulations 2023 and SI 2023/320 The Gas Safety (Management) (Amendment) (No. 2) Regulations 2023.



Published by TSO (The Stationery Office), part of Williams Lea,
and available from:

Online

www.tsoshop.co.uk

Mail, Telephone & E-mail

TSO

PO Box 29, Norwich, NR3 1GN

Telephone orders/General enquiries: 0333 202 5070

E-mail: customer.services@tso.co.uk

Textphone: 0333 202 5077

Important legal notice

From 1 April 2009, in relation to gas work for which registration is required by law, gas engineering businesses operating in Great Britain must be registered with the Gas Safe Register. Membership of CORGI will no longer satisfy this legal requirement. For more information, call 0800 408 5500 or visit: www.gassaferegister.co.uk

© Crown copyright 2024

First published 1996

ISBN 978 0 7176 6748 2

Published for the Health and Safety Executive under licence from the Controller of His Majesty's Stationery Office.

This information is licensed under the Open Government Licence v3.0. To view this licence, visit <http://www.nationalarchives.gov.uk/doc/open-government-licence/>**OGL**

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means (electronic, mechanical, photocopying, recording or otherwise) without the prior written permission of the copyright owner.

Applications for reproduction should be made in writing to:

The Office of Public Sector Information, Information Policy Team, Kew, Richmond, Surrey TW9 4DU or

e-mail: licensing@opsi.gov.uk

This guidance is issued by the Health and Safety Executive. Following the guidance is not compulsory and you are free to take other action. But if you do 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.

SD000140 3/24

Contents

	Preface	5
Regulation 1	Citation and commencement	6
Regulation 2	Interpretation	6
Regulation 3	Duties on persons conveying gas	14
Regulation 4	Revision of safety cases	16
Regulation 5	Duty to conform with safety case	17
Regulation 6	Co-operation	18
Regulation 7	Gas escapes and investigations	20
Regulation 8	Content and other characteristics of gas	31
Regulation 9	Keeping of documents	33
Regulation 10	Transitional provisions	34
Regulation 11	Exemptions	37
Regulation 12	Repeals, revocations and amendment	37
Regulation 13	Insertion of Regulation 13	37
Regulation 14	Amendment of Schedule 3	39
Regulation 15	Amendment of the Health and Safety and Nuclear (Fees) Regulations 2022	40
	Content of safety cases: general guidance	42
Schedule 1	Particulars to be included in safety case of a person conveying gas	45
Schedule 2	Particulars to be included in safety case of a network emergency co-ordinator	61
Schedule 2A	Emergency reporting service provider: safety case	65
Schedule 3	Content and other characteristics of gas	70
	References	73
	Further information	74

Preface

The Gas Safety (Management) Regulations 1996 (GSMR) apply to the conveyance of natural gas (methane) through pipes to domestic and other consumers and cover four main areas:

- (a) the safe management of gas flow through a network, particularly those parts supplying domestic consumers, and a duty to minimise the risk of a gas supply emergency;
- (b) arrangements for dealing with supply emergencies;
- (c) arrangements for dealing with reported gas escapes and gas incidents;
- (d) gas composition.

This guidance is aimed at gas transporters and other parties (eg gas shippers and terminal operators) to help them understand how they comply with the regulations. In particular, it provides guidance on what constitutes a gas network, what information should be included within GSMR safety cases and describes the co-operation requirements that are necessary for duty holders to operate a gas network in order to comply with these regulations.

This third edition has been revised to incorporate the amendments made by SI 2023/284 The Gas Safety (Management) (Amendment) Regulations 2023 and SI 2023/320 The Gas Safety (Management) (Amendment) (No. 2) Regulations 2023. Those amendments address issues that have arisen as the network has evolved over time and substantively change the 1996 regulations by:

- (a) decreasing the lower Wobbe number (WN) limit for normal supply from 47.20 MJ/m³ to 46.50 MJ/m³;
- (b) introducing a relative density value of ≤ 0.700 in Schedule 3 to replace the Incomplete Combustion Factor and Sooting Index values;
- (c) increasing the permitted oxygen limit in gas networks operating up to and including 38 bar from $\leq 0.2\%$ (molar) to $\leq 1.0\%$ (molar);
- (d) updating the definition of a network to clarify that biomethane production facilities and liquefied natural gas (LNG) facilities form one of the starting points for a network;
- (e) clarifying that co-operation duties apply to operators of LNG import facilities;
- (f) introducing a general duty for an emergency reporting service provider to provide a continuously manned gas emergency telephone service, including a safety case provision and new schedule outlining the particulars to be included within the safety case of an emergency reporting service provider.

Regulation 1 Citation and commencement

Regulation 1

These Regulations may be cited as the Gas Safety (Management) Regulations 1996 and shall come into force on 1st April 1996 except regulation 8 which shall come into force on 31st October 1996.

Guidance 1

1 This guidance should be interpreted and used by duty holders as one consolidated guide to both the Gas Safety (Management) Regulations 1996 and the Gas Safety (Management) (Amendment) Regulations 2023.

2 The changes arising from the Gas Safety (Management) Regulations 2023 came into force on 6 April 2023 with the exception of the new lower Wobbe number limit in Schedule 3, which will come into force on 6 April 2025.

3 The changes apply to England, Scotland and Wales.

Regulation 2 Interpretation

Regulation 2(1)

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

“the 1998 Regulations” means the Gas Safety (Installation and Use) Regulations 1998;⁽¹⁾

“biogas” and “biomethane” have the meanings given in section 100(3) of the Energy Act 2008;⁽²⁾

“biomethane production facility” means a facility for the production of biomethane from biogas;

(1) *SI 1998/2451*

(2) *2008 c. 32. The definition of “biogas” was inserted by S.I. 2011/2195. There are other amendments to section 100(3) but none is relevant to these Regulations.*

Guidance 2(1)

4 Regulation 3 of the Gas Safety (Management) (Amendment) Regulations 2023 amends Regulation 2 of the Gas Safety (Management) Regulations 1996 by creating definitions of biogas, biomethane, biomethane production facility, an emergency reporting service provider and a liquefied natural gas (LNG) facility. It also amends Regulations 2(2) and 2(4) regarding network definition.

5 ‘Biogas’ means gas produced by the anaerobic or thermal conversion of biomass. That is, material (other than fossil fuel) which is, or is derived directly or indirectly from, plant matter, animal matter, fungi or algae. In these regulations, it is to be interpreted as gas which is produced at a gas production facility or a biomethane production facility before it is processed.

6 ‘Biomethane’ means biogas which is suitable for conveyance through pipes to premises in accordance with a licence under Section 7 of the Gas Act 1986 (c. 44) (gas transporter licences). It is biogas which has been processed in either the gas production facility, gas processing facility or biomethane production facility ready for either onward injection into the gas network, or conveyance to treatment or blending points ready for onward injection into the gas network.

7 ‘Biomethane production facility’ refers specifically to a facility which produces biomethane from biogas and becomes another of the starting points of a network, alongside a gas processing facility, a storage facility, an LNG facility or an interconnector.

Regulation 2(1)

“distribution main” has the same meaning as in regulation 2(1) of the 1998 Regulations;

“electricity generating station” includes an electricity generating station used for generating electricity for use on the same premises on which it is situated;

Guidance 2(1)

- 8 An electricity generating station refers to those facilities which supply electricity to:
- (a) the national grid; or
 - (b) the premises on which they are situated; or
 - (c) both.

This definition also includes combined heat and power units.

Regulation 2(1)

“emergency control” has the same meaning as in regulation 2(1) of the 1998 Regulations;

Guidance 2(1)

9 An ‘emergency control valve’ (ECV) is a valve intended for use by the end user for turning off the gas supply in an emergency. An ECV has to be accessible by that end user and should always be found at the end of the service pipe.

- (a) In a domestic situation, the end user will typically be the individual occupant of the premises receiving gas. This includes the occupant of each individual dwelling in multiple occupancy buildings;
- (b) In a non-domestic situation, the end user would be the occupier of the premises or, where there is no occupier or the occupier is away, the owner of the premises or any person with authority for the time being to take appropriate action in relation to the use of gas or any gas fitting. The end user will nominally be the ‘responsible person’ for any premises as outlined at Regulation 7(17).

10 Based on assessment of risk, where additional emergency control valves (AECVs) are installed, they do not replace an otherwise accessible ECV for the end user. AECVs may be used, for example, where there is a significant length of pipe between the primary ECV and an appliance (so closing a local AECV reduces the total amount of gas which could be released) or where closure of a local AECV allows continued gas supply to other buildings/appliances/users. A control valve may only be classed as the ECV where there is adequate access to the end user for the purposes of turning off the supply of gas.

11 Further guidance on ECVs can be found in paragraphs 150–157 of L56 guidance *Gas Safety (Installation and Use) Regulations 1998 (GSIUR) as amended, Approved Code of Practice and Guidance* (HSE, 2018).

Regulation 2(1)

“emergency reporting service provider” is to be construed in accordance with paragraphs (3A) and (3B) of regulation 3;

Guidance 2(1)

12 The emergency reporting service provider assumes the duties and responsibilities previously placed on British Gas plc. They must prepare a safety case demonstrating effective operation of a continuously manned telephone service for reporting gas escapes and incidents, with a focus on the particulars to be included which are expressed in Schedule 2A.

Regulation 2(1)	<p><i>“emergency service provider” means a person appointed pursuant to regulation 7(11);</i></p> <p><i>“the Executive” means the Health and Safety Executive;</i></p> <p><i>“gas” means any substance in a gaseous state which consists wholly or mainly of methane;</i></p>
Guidance 2(1)	<p>13 These regulations are intended to cover the transport of natural gas to the public. They do not cover gases such as liquefied petroleum gas (LPG), coke-oven gases etc.</p>
Regulation 2(1)	<p><i>“gas fittings” means gas fittings as defined in regulation 2(1) of the 1998 Regulations as if the phrase “(other than the purpose of an industrial process carried out on industrial premises)” did not appear in that definition;</i></p>
Guidance 2(1)	<p>14 Gas fittings are any pipes, meters, appliances etc on the end user’s side of the emergency control at the end of the service pipe. The definition applies to gas fittings at domestic, commercial and industrial premises.</p>
Regulation 2(1)	<p><i>“gas processing facility” means any gas processing facility which –</i></p> <p><i>(a) blends or purifies gas, removes from gas any of its constituent gases or separates from gas any oil or water; and</i></p> <p><i>(b) is situated at a terminal which receives gas directly or indirectly from a gas production facility;</i></p>
Guidance 2(1)	<p>15 A gas processing facility is generally the terminal which first receives gas from a gas production facility. It has the primary function of processing gas in preparation for its injection into a network.</p>
Regulation 2(1)	<p><i>“gas production facility” means a facility for the extraction of gas from strata or for the manufacture of gas;</i></p>
Guidance 2(1)	<p>16 Both onshore and offshore facilities provide gas to gas processing facilities. The gas may be provided directly from the production facility or indirectly (for example, via an offshore gas gathering system).</p>
Regulation 2(1)	<p><i>“installation pipework” has the same meaning as in regulation 2(1) of the 1998 Regulations;</i></p>
Guidance 2(1)	<p>17 For the purposes of these regulations, the definition of the word ‘pipe’ does not include any pipe on the end user’s side of the emergency control at the end of the service pipe.</p>
Regulation 2(1)	<p><i>“interconnector” means a pipeline used for the conveyance of gas to Great Britain from another country;</i></p>
Guidance 2(1)	<p>18 Although the definition of interconnector does not include a pipeline used for the conveyance of gas from Great Britain to another country, there are bi-directional pipelines which both import and export gas using the same pipeline. The definition of interconnector includes pipelines with this functionality.</p> <p>19 The definition here serves the purpose of helping to define the start of a network, alongside a gas processing facility, an LNG facility, a storage facility or a biomethane production facility.</p>

Guidance	2(1)	20 Where an import or bi-directional interconnector joins the National Transmission System, the relevant parties should agree the demarcation of operator boundaries and responsibilities.
Regulation	2(1)	<i>“LNG facility” means a facility for the reception and regasification of liquid natural gas and any activity, including temporary storage of gas or liquid gas, which is necessary for that reception or regasification;</i>
Guidance	2(1)	21 LNG facilities are facilities in which liquefied natural gas (LNG) is stored with the capability (or access to the capability) of gasifying the LNG for export into the gas network. Nothing within these regulations changes the requirements for the storage of LNG under The Control of Major Accident Hazard Regulations 2015.
Regulation	2(1)	<i>“network” shall be construed in accordance with paragraphs (2) to (4);</i>
Guidance	2(1)	22 The network itself is a connected system of pipes used for the conveyance of gas in which different gas conveyors operate different sections. Gas conveyors will need to understand and agree the demarcation of their respective operator boundaries and responsibilities to ensure compliance with the safety case requirements outlined in Regulation 3 and to aid in the completion of safety cases for those respective parties.
Regulation	2(1)	<i>“network emergency co-ordinator” shall be construed in accordance with paragraphs (2) and (3) of regulation 3;</i> <i>“pipe” includes a pipeline, distribution main, service pipe and any ancillary plant connected to a pipe and used for the conveyance of gas, but it does not include a pipe downstream of an emergency control;</i> <i>“safety case” shall be construed in accordance with paragraph (5);</i> <i>“service pipe” has the same meaning as in regulation 2(1) of the 1998 Regulations;</i>
Guidance	2(1)	23 A service pipe connects the distribution main to individual premises, terminating at the outlet of the emergency control immediately upstream of the installation pipework and other gas fittings.
Regulation	2(1)	<i>“supply emergency” means an emergency endangering persons and arising from a loss of pressure in a network or any part thereof.</i>
Guidance	2(1)	24 The loss of pressure referred to in the regulations would usually be caused by insufficient gas being present in the network, ie demand exceeding supply. This could be caused by a failure on the supply side due to an incident offshore, at a terminal, or on a main transmission pipe. It could also be caused by an incorrect forecast for short-term gas consumption. In some circumstances, an accidental gas leak from a network could give rise to a significant or total loss of pressure as a consequence of the leak, or the actions of the emergency services executing their duties under Regulation 7.
Regulation	2(2)	<i>2. Any reference in these Regulations to a network is, subject to paragraphs (3) and (4), a reference to a connected network of pipes used for the conveyance of gas from a gas processing facility, a biomethane production facility, an LNG facility, a storage facility or an interconnector, except a connected network of pipes used exclusively for conveying gas to non-domestic premises.</i>
Guidance	2(2)	25 See Figure 1 (at Regulation 2(4)) for a schematic diagram of the network.

Guidance 2(2)

26 A network will generally start from the outlet of a valve downstream of a gas processing facility, a biomethane production facility, an LNG facility, a storage facility or an interconnector importing gas into Great Britain, but does not include the facility or interconnector itself. The specific starting point will depend on the layout of each facility and the demarcation of duties between operators.

27 The end of a network is the outlet of the emergency control valve at the end of the service pipe or pipeline, as described in the Pipelines Safety Regulations 1996 (PSR) 3(4) and 3(5).

28 The conveyance of gas within a network will be subject to the safety case requirements.

29 This includes the conveyance of biomethane in a gas network.

30 Where a pipeline, including a bi-directional interconnector, is used to convey gas from Great Britain, ie for exporting gas, it will be necessary for the gas transporter (see paragraph 39) on that pipeline to prepare a safety case in accordance with GSMR.

31 There are exceptions to the safety case requirements for conveying gas, and safety cases will not be required in the following circumstances:

- (a) When gas that is not biogas or biomethane and does not comply with the requirements of Part I of Schedule 3 is being conveyed from any of the starting points of a network through pipelines to a treatment or blending point;
- (b) When an interconnector is used solely to convey gas to Great Britain from another country;
- (c) When gas is being conveyed in a stand-alone gas distribution system to industrial and other non-domestic premises such as factories, warehouses or office blocks.

32 Thus, for example, a dedicated single pipeline or distribution system conveying gas only to non-domestic premises (eg to an electricity generating station) from a gas processing facility or biomethane production facility would not be a network within the meaning of these regulations. Those who convey gas on such a system would not, therefore, be required to produce a safety case, or otherwise comply with these regulations.

Regulation 2(3)

3 *A network does not include pipes upstream from a junction on a pipe used exclusively for conveying gas to an electricity generating station; and in this paragraph the reference to a junction on a pipe used exclusively for conveying gas to an electricity generating station is a reference to the point where the upstream end of the pipe joins a pipe used for another purpose.*

Guidance 2(3)

33 This regulation references a system of pipes which are only being used to convey gas to non-domestic premises, and are not subject to the regulations. Such stand-alone systems are different from networks of pipes which may be used to convey gas both to domestic and non-domestic premises. The system of pipes would be subject to the regulations if the system itself was connected directly or indirectly to pipes operated by another transporter conveying gas to domestic premises (eg a single pipeline system transporting gas from national or local transmission systems to an electricity generating station would be a network as defined and require a safety case). Gas conveyors will need to understand and agree the demarcation of their respective operator boundaries and responsibilities.

Regulation 2(4)

4 Where gas (other than biogas or any gas produced from biogas) which does not conform with the requirements referred to in regulation 8(1) is conveyed from a gas processing facility or an LNG facility for treatment or blending so as to bring it into conformity with those requirements –

(a) any pipes used exclusively for conveying gas (other than biogas or gas produced from biogas) from that facility to the point where the gas is treated or blended or to non-domestic premises (or to both), are not to be treated as part of a network for the purposes of these Regulations;

(b) any pipes used exclusively for conveying gas (including biogas or gas produced from biogas) from that facility to the point where the gas is treated or blended or to non-domestic premises (or to both) are not to be treated as part of a network for the purposes of these Regulations at any time when they are being used to convey gas which is not biogas or produced from biogas.

Guidance 2(4)

34 Some types of out-of-specification gas may be conveyed through pipelines without being classified as part of a network. For the purposes of this regulation, out-of-specification gas refers to gas which is not biogas or biomethane and does not comply with the requirements of Part I of Schedule 3.

35 Pipes which are used only to convey out-of-specification gas to a treatment or blending point or to non-domestic premises, or both, are not part of the network and will not require a safety case.

36 A treatment point is the point where out-of-specification gas or biogas or biomethane is brought within the specification of Part I of Schedule 3. A blending point is the point where out-of-specification gas or biogas or biomethane is mixed with other gas on the network to produce gas of a new composition which is within the specification set out in Part I of Schedule 3.

37 When the gas being conveyed is biogas or biomethane, then the pipeline is part of a network and will require a safety case. See Regulation 8(1 and 2), paragraphs 134–138 of this guidance.

38 While this regulation enables out-of-specification gas which is not biogas or biomethane to be conveyed without a safety case requirement, when gas which does conform to Part I of Schedule 3 is also conveyed periodically through the same pipes, these pipes will form part of a network under Regulation 2(2) and will require a safety case to enable gas to be conveyed in them. Safety cases produced in these circumstances will need to address both situations.

Regulation	2(5)	<p>5 Any reference in these Regulations to a safety case is a reference to a document containing the particulars required by the provision of these Regulations pursuant to which the safety case is prepared, and –</p> <p>(a) insofar as the document contains other particulars it shall not be treated as part of the safety case for the purposes of these Regulations;</p> <p>(b) nothing in these Regulations shall require the particulars to relate to a source of risk other than the gas itself.</p>
Guidance	2(5)	<p>39 A safety case for a gas transporter needs to conform to the requirements of Schedule 1 to the regulations.</p> <p>40 A safety case for the network emergency co-ordinator (NEC) needs to address the requirements laid down in Schedule 2 to these regulations. The safety case should cover the relevant issues concerning only the safe conveyance of gas.</p> <p>41 A safety case for the emergency reporting service needs to include the particulars outlined in Schedule 2A to the regulations.</p> <p>42 Throughout this guidance, the terminology used is, as far as possible, consistent with that used in the Gas Act 1986 as amended by the Gas Act 1995. Thus, the terms ‘supplier’ and ‘shipper’ have the same meaning as defined in section 7A(11) to the aforementioned Acts. The guidance also refers to ‘gas transporters’. These are the people who either hold a public gas transporter (PGT) licence or who physically convey gas through pipes but are exempt from the need to hold a PGT licence.</p>
Regulation	2(6)	<p>6 Any reference in these Regulations to the Executive accepting a safety case or revision thereof is a reference to the Executive notifying in writing the person who prepared it that it is satisfied with the case for health and safety made out in it.</p>
Guidance	2(6)	<p>43 A safety case, or a revised safety case, has not been accepted by the Health and Safety Executive (HSE) until the person preparing it has been notified of that fact in writing.</p>
Regulation	2(7)	<p>7 Any reference in these Regulations to the conveyance of gas is a reference to the conveyance of gas through pipes.</p>
Guidance	2(7)	<p>44 Conveyance of gas by means other than pipes is not covered by, nor is relevant to, these regulations.</p>
Regulation	2(8)	<p>8 Any reference in these Regulations to conveying gas in a network includes a reference to conveying gas in any part of the network.</p>
Guidance	2(8)	<p>45 All parts of a network (see paragraphs 25–38) are covered by the regulations.</p>
Regulation	2(9)	<p>9 Any reference in these Regulations to preventing a supply emergency is a reference to preventing a supply emergency from occurring or continuing.</p>
Guidance	2(9)	<p>46 One of the principal aims of these regulations is to minimise the risk of a supply emergency occurring, or if that is not possible, to minimise its duration.</p>

Regulation 2(10)

10 *In these Regulations any reference, in relation to a network, to the network emergency co-ordinator is a reference to the network emergency co-ordinator who has prepared and had accepted a safety case relating to that network pursuant to regulation 3(2) or 10(4).*

(10A) In these Regulations any reference, in relation to a network, to an emergency reporting service provider is a reference to an emergency reporting service provider who has prepared and had accepted a safety case relating to the network pursuant to regulation 3(3A).

Guidance 2(10)

47 A network emergency co-ordinator and an emergency reporting service provider may only operate where a safety case, which is relevant to the network of which they have responsibility, has been accepted by HSE.

Regulation 2(11)

11 *Any reference in these Regulations to a person supplying or conveying gas, preparing a safety case or carrying out work in relation to a gas fitting is a reference to a person who does so in the course of a business or other undertaking carried on by him.*

Guidance 2(11)

48 Businesses or undertakings are covered by the regulations whether they are carried out for profit or not; for example, charities, institutions and other operations run on a voluntary basis are included.

Regulation 2(12)

12 *Unless the context otherwise requires, any reference in these Regulations to –*

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

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

Regulation 3 Duties on persons conveying gas

Regulation 3(1)

(1) *No person shall convey gas in a network unless –*

(a) he has prepared a safety case containing the particulars specified in Schedule 1 and that safety case has been accepted by the Executive;

aa) there is a sole emergency reporting service provider for the network; and

(b) where any other person is conveying gas in that network, there is a sole network emergency co-ordinator for the network.

Guidance 3(1)

49 All gas transporters must prepare a safety case, submit it to HSE and have it accepted before beginning operations.

50 A network must have an emergency reporting service provider who provides a continuously manned telephone service for reporting gas escapes and incidents.

51 Where two or more gas transporters are operating on a network, there should be a sole NEC whose safety case has been accepted by HSE.

52 Nothing within these regulations should prevent there being multiple emergency reporting service providers, given how gas distribution companies can operate distinct parts of a network. However, the holders of a gas conveyor safety case must only have a sole provider in relation to that part of a network within the scope of their safety case. An emergency reporting service provider may provide

Guidance 3(1)

the service for multiple gas conveyors as long as they have a safety case accepted by HSE for each duty holder.

53 Each emergency reporting service must be contactable within Great Britain via the use of a single telephone number, such as the current 0800 111 999 gas emergency telephone number. The service provider, gas conveyor and emergency service provider should also advertise the phone number to clarify for gas consumers which phone number to use in a gas emergency. It is good practice to advertise the number on company livery and on signage around work or repair sites.

Regulation 3(2)

(2) For the purposes of these Regulations a network emergency co-ordinator is, subject to paragraph (3), a person who has prepared a safety case containing the particulars specified in Schedule 2 and has had that safety case accepted by the Executive.

Guidance 3(2)

54 The NEC does not come into existence, in a legal sense, until their safety case has been prepared, submitted and accepted by HSE.

Regulation 3(3)

(3) Where a network emergency co-ordinator has given written notice to the Executive and to all persons conveying gas in the network that he no longer intends to act in that capacity, he shall not be the network emergency co-ordinator for the purposes of these Regulations from the time such notice takes effect (which shall not be less than 6 months after it was given).

(3A) For the purposes of these Regulations, a “emergency reporting service provider” is a person who has prepared a safety case containing the particulars specified in Schedule 2A and has had that safety case accepted by the Executive.

(3B) Where an emergency reporting service provider has given written notice to the Executive and all persons who are conveying gas in the network, that they no longer intend to act in that capacity, that person ceases to be an emergency reporting service provider on the relevant date.

(3C) For the purposes of paragraph (3B) “the relevant date” means –

(a) the date specified in the written notice given by the existing emergency reporting service provider, which may not be before the end of the period of two years beginning with the date on which the notice is given or

(b) if earlier, the date on which a person who has prepared a safety case in relation to the relevant network containing the particulars specified in Schedule 2A has their safety case accepted by the Executive.

Guidance 3(3)

55 An NEC can relinquish their role by giving at least six months’ notice. The six-month notice period is designed to allow gas transporters on the network to agree a replacement NEC, and for that successor to prepare, submit and have a safety case accepted by HSE.

56 The emergency reporting service provider must have a safety case accepted by HSE.

57 The emergency reporting service provider can relinquish the role by giving at least two years’ notice. The two-year notice period is designed to allow gas transporters on the network time to agree a replacement emergency reporting service provider, and for that successor to prepare, submit and have a safety case accepted by HSE.

Guidance 3(3)

58 The regulations enable the two-year notice period to be avoided if a replacement emergency reporting service provider has a safety case accepted by HSE for that network within that time frame or has an existing safety case that can be revised and accepted by HSE within that time frame.

59 The safety case (or accompanying letter) should indicate the proposed hand-over date should the safety case be accepted by HSE. At a minimum this proposed hand-over date should not be less than three months after the safety case has been submitted to HSE.

60 This provision may be relied upon to facilitate a short transition from one emergency reporting service provider to another, as long as there remains one sole emergency reporting service provider for that network.

Regulation 3(4)

4 *Nothing in these Regulations shall prevent a person who conveys gas in a network from also being the network emergency co-ordinator or the emergency reporting service provider (or both).*

Guidance 3(4)

61 An NEC or emergency reporting service provider can come from the same organisation as one of the gas transporters forming part of the network. The gas conveyance part of the organisation would, however, need to submit to the control of the NEC in the event of a supply emergency and co-operate with the emergency reporting service provider during instances of gas escapes or incidents.

Regulation 4 Revision of safety cases

Regulation 4(1) and (2)

(1) *A person who has prepared a safety case pursuant to these Regulations shall revise its contents whenever it is appropriate, but nothing in this paragraph shall require him to have the revision accepted by the Executive.*

(2) *Where a revision proposed to be made under paragraph (1) will render the safety case materially different from the last version accepted by the Executive pursuant to these Regulations, the revision shall not be made unless the Executive has accepted the revision, and for the purposes of this paragraph in determining whether a proposed revision will render the safety case materially different from the version referred to above, regard shall be had to the cumulative effect of that proposed revision and any previous revisions made under paragraph (1) but not subject to this paragraph.*

Guidance 4(1) and (2)

62 The safety case is a living document and should be kept up to date to take account of, for example, alterations to the gas transporter's system, changes to the method of operation, management structure etc. Even apparently minor changes should be assessed and arrangements made for logging them and ensuring all relevant documentation is updated as appropriate, including copies of such documents that may be in use. Apart from the obvious operational need to keep the safety case up to date, systematic logging of modifications will help gas transporters to demonstrate to HSE that they are continuing to operate, as required by Regulation 5, in conformity with their safety case.

63 Where proposed modifications have a material effect on the safety case, the safety case, or relevant parts of it, should be resubmitted to HSE for acceptance. Such changes should not be implemented until the new safety case (or parts) has been accepted by HSE; but see also paragraphs 67 and 68.

64 Whether a change is material will often depend on how much more gas is likely to be conveyed as a result of any new development, in comparison with the overall size of the gas transporter's system. Thus a new supply to a housing estate

Guidance 4(1)
and (2)

may not constitute a material change to a large gas transporter, but may to a smaller one. Alternatively, the need for a material change may become apparent following an accident, a 'near miss' or as a result of advances in technology.

65 The cumulative effect of a large number of non-material revisions to a safety case over a longer period of time should be taken into account when considering whether it should be resubmitted.

66 To enable a broad understanding to be developed in advance with HSE on the types of change that could be regarded as material, duty holders will no doubt wish to liaise closely with HSE during the preparation of their safety case, and to propose relevant criteria for determining what is material in their safety case. In addition to pipeline infrastructure changes, changes in policies (eg security of supply criteria), procedures, use of storage gas by the transporter for daily balancing or other operational reasons, computer and communication systems, and key personnel could all have a material effect on the arrangements described in the safety case. Minor changes in day-to-day management need not be submitted, but changes of operator or ownership, the contracting-out of or change to key safety functions, eg emergency service provision, are examples of changes which could merit the submission of a revised safety case or part of it. Any change should therefore be viewed in the context of its impact on the safety case which has been accepted by HSE. It is important to emphasise that it is the gas transporter's responsibility, in the light of all the circumstances and the criteria agreed with HSE, to determine what constitutes a material change. In cases of doubt, advice may be sought from HSE.

Regulation 4(3)

(3) *A person who has prepared a safety case which has been accepted by the Executive pursuant to these Regulations shall make a thorough review of its contents at least every three years.*

Guidance 4(3)

67 Safety cases should in any event be reviewed every three years and a report sent to HSE, as required under Regulation 9(1)(e). The main purpose of the review is to ensure that gas transporters re-examine the entire contents of the safety case at regular intervals. The report submitted should reflect the fact that a review has been carried out and indicate the conclusions reached. In particular, it should include what, if any, changes to the safety case have been identified as being necessary as a result of the review. If a material change is considered necessary, the revised safety case should be submitted to HSE for acceptance.

68 The duty to review and revise applies to all safety case duty holders, ie gas conveyors, the network emergency co-ordinator and the emergency reporting service provider.

Regulation 5 Duty to conform with safety case

Regulation 5(1)

(1) *Where a person has prepared and has had accepted a safety case pursuant to these Regulations he shall ensure, so long as he conveys gas in the network to which the safety case relates or remains a network emergency co-ordinator or an emergency reporting service provider, as the case may be, that the procedures and arrangements described in the safety case and any revision thereof are followed.*

Guidance 5(1)

69 Auditing and review arrangements should be described in the safety case and will need to be implemented to ensure the accepted safety case is being followed, including any revisions made under Regulation 4 (see paragraph 6 of Schedule 1 and paragraph 4 of Schedule 2 to these regulations).

Regulation 5(2)

(2) *In criminal proceedings for a contravention of paragraph (1) it shall be a defence for the accused to prove that –*

(a) *in the particular circumstances of the case it was not in the best interests of health and safety to follow the procedures or arrangements concerned and there was insufficient time to revise the safety case pursuant to regulation 4; or*

(b) *the commission of the offence was due to a contravention by another person of regulation 6 and the accused had taken all reasonable precautions and exercised all due diligence to ensure that the procedures or arrangements were followed.*

Guidance 5(2)

70 Regulation 5(2)(a) relates to situations where compliance with the safety case may lead to a greater risk to safety than if it was breached, eg changes needed in an emergency situation not foreseen in the original safety case.

71 Regulation 5(2)(b) relates to situations where non-compliance with the safety case was caused by an error, omission or criminal act by some person other than the accused; this applies especially to those listed in Regulation 6(2). Thus, for example, if it could be shown that a supply emergency was caused by the negligent actions of a gas shipper or terminal operator, then no blame would attach to the gas transporter if they had done everything that was reasonable for someone in their position to do, given all the circumstances.

Regulation 6 Co-operation

Regulation 6(1) and (2)

(1) *Every person to whom this paragraph applies shall co-operate so far as is necessary with a person conveying gas in a network, with a network emergency co-ordinator and with an emergency reporting service provider to enable them to comply with the provisions of these Regulations.*

(2) *Paragraph (1) applies to –*

(a) *a person conveying gas in the network;*

(b) *an emergency service provider;*

(c) *the network emergency co-ordinator in relation to a person conveying gas or an emergency reporting service provider;*

(ca) *an emergency reporting service provider in relation to a person conveying gas or a network emergency co-ordinator;*

(d) *a person conveying gas in pipes which are not part of a network by virtue of regulation 2(3) or (4);*

(e) *the holder of a licence issued under section 7A of the Gas Act 1986⁽¹⁾;*

(f) *a person exempted under section 6A(1) of the Gas Act 1986⁽²⁾ from paragraph (b) or (c) of section 5(1) of that Act;*

(g) *a person referred to in paragraph 5(1) of Schedule 2A to the Gas Act 1986;*

(h) *the person in control of a gas production facility, a biomethane production facility, a gas processing facility, a storage facility, an LNG facility or an interconnector supplying gas to the network.*

(1) 1986 c. 44; section 7A was inserted by section 6 of the Gas Act 1995.

(2) Section 6A of the Gas Act 1986 was inserted by section 4 of the Gas Act 1995.

Guidance 6(1) and (2)

72 This regulation creates a duty on those cited in Regulation 6(2) to co-operate with gas transporters, the NEC and the emergency reporting service provider as far as is necessary to enable them to comply with these regulations. For a network to operate safely and to minimise the risk of a supply emergency, it is necessary for gas transporters to have appropriate information about the supply and demand of gas on their part of the network, so that the network as a whole remains in balance. The practical arrangements to achieve this will be set out in the transporter's safety case, including arrangements and operational procedures which the gas transporter has agreed with other duty holders (see paragraph 173).

73 Other situations where co-operation will be important include when a gas escape occurs or where an incident notifiable under Regulation 11(1) of the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR) has occurred. This will involve the exchange of information and co-ordination of action with the emergency reporting service provider to deal with both the incident itself and to complete the necessary investigation (see Regulation 7 of these regulations).

74 The principle of Regulation 6 is co-operation between gas conveyors, the NEC, the emergency reporting service provider and those involved in the gas supply chain. This will include gas production facilities, biomethane production facilities, LNG facilities and interconnectors. Gas production facilities include fixed installations and borehole sites. Interconnectors importing gas are covered specifically by Regulation 6(2)(h). Interconnectors exporting gas are covered by Regulation 6(2)(a) as they are considered to be part of the gas network when exporting.

Regulation 6(3)–(5)

(3) *The reference in paragraph (2)(h) to the person in control of a production facility is –*

(a) *where the facility is a fixed installation within the meaning of regulation 2(1) of the Offshore Installations and Pipeline Works (Management and Administration) Regulations 1995⁽³⁾, an operator within the meaning of that regulation;*

(b) *where the facility is a borehole site within the meaning of regulation 2(1) of the Borehole Sites and Operations Regulations 1995⁽⁴⁾, an operator within the meaning of that regulation.*

(4) *A person conveying gas in a network may, subject to paragraph (5), direct a person not to consume gas for the period specified in the direction.*

(5) *A direction under paragraph (4) may –*

(a) *only be given where it is necessary to prevent a supply emergency or to prevent danger arising from the use of gas not conforming with the requirements of regulation 8;*

(b) *be given orally or in writing and may be withdrawn at any time.*

(3) *SI 1995/738.*

(4) *SI 1995/2038.*

Guidance 6(3)–(5)

75 This regulation provides for gas transporters to instruct consumers to cease using gas where it is necessary to avoid a supply emergency developing or, if one develops, to minimise its impact. It is also used to prevent danger arising from the use of gas that does not conform with the requirements of Regulation 8.

Guidance 6(3)–(5)

76 Depending on the circumstances, eg the number of people involved or the speed with which a supply emergency develops, the transporter may make the direction orally (eg by telephone) or in writing (including electronically). The main risks associated with a supply emergency arise from the partial or total shutdown of the network. In these circumstances it will be necessary for individual consumers to cease using gas safely, to make the pipeline and distribution mains safe, and subsequently to reinstate the gas supply safely.

77 In essence, if pressure has been lost in a gas main, all the affected pipework needs to be brought to atmospheric pressure, then purged of residual gas, before being repressurised and brought back on stream. Any premises downstream of the point where pressure was lost would have to be entered to purge any air or other contaminant which may have entered the system when gas pressure was lost, and for the appliances to be relit.

78 It follows that the fewer premises involved, the lower the risk. If the situation allows, it will normally be preferable for a few large industrial consumers to stop using gas, rather than many domestic or other low-volume consumers. It may also be appropriate for gas transporters to make appeals to domestic and other low-volume consumers to reduce consumption.

79 Gas suppliers have a duty to co-operate with gas transporters and the NEC to enable them to comply with the law. Consequently in some cases, it may be appropriate for the supplier to assist the gas transporter in managing the emergency. However, it will be essential that all consumers understand that the supplier is operating under the directions of the transporter and that consumers are aware of the need to follow any directions issued by the gas transporter.

Regulation 6(6)

(6) *Where a direction is given to a person pursuant to paragraph (4), that person shall comply with it during the period specified in the direction except that this shall not require him to comply with a direction after it has been withdrawn.*

Guidance 6(6)

80 Where the gas transporter has issued an instruction to a consumer to cease using gas, the consumer must by law follow that direction. However, it will be important for gas transporters to satisfy themselves that consumers are in a position to comply with any direction issued (ie there is sufficient lead time for consumers to cease using gas in a safe manner).

Regulation 6(7) and (8)

(7) *In criminal proceedings for a contravention of paragraph (6) it shall be a defence for the accused to prove that he had no knowledge of the direction.*

(8) *A person who conveys gas in a network shall, where he is requested to do so by a person proposing to carry out work in relation to a gas fitting, provide him with information about the operating pressures of the gas at the outlet of a service pipe.*

Regulation 7 Gas escapes and investigations

Regulation 7(1)

(1) *An emergency reporting service provider –*

(a) *must provide a continuously manned telephone service for enabling persons to report an escape of gas from a network or from a gas fitting supplied with gas from a relevant network, and*

(b) *may provide other continuously manned means for enabling persons to report such an escape to it.*

Regulation 7(1)

(1A) In this regulation “relevant network”, in relation to an emergency reporting service provider (“N”), means –

(a) the network for which N is the emergency reporting service provider, or

(b) where N is the emergency reporting service provider for two or more networks, any of the networks for which N is the emergency reporting service provider.

And references to a “relevant service provider” are to be construed accordingly.

(1B) The telephone service provided for the purposes of paragraph (1)(a) must be contactable within Great Britain by the use of one telephone number.

(1C) Where the emergency reporting service provider is not the same for all networks –

(a) the emergency reporting service providers must ensure, for the purposes of paragraph (1)(a), that they are all contactable within Great Britain by the use of the same telephone number, and

(b) where an emergency reporting service provider (“E”) also provides other means for enabling persons to report gas escapes to it, E must have in place arrangements to ensure that any gas escape notified to E which concerns a network for which E is not the emergency reporting service provider is notified forthwith to the relevant emergency reporting service provider.

Guidance 7(1)

81 Each emergency reporting service provider must provide a continuously manned national freephone number, contactable within Great Britain by the use of a single unique telephone number (such as 0800 111 999), for use by the public, consumers and the emergency services in the event of a gas escape from a network (gas escapes include actual or suspected emission of carbon monoxide (CO) from gas appliances too) or a fire or explosion where gas is suspected to have been involved. Gas escapes can occur at any time and there should be sufficient trained and competent personnel to ensure that all calls are answered promptly whatever the time of day or night.

82 It is anticipated that the emergency reporting service provider duty will be undertaken by those holding a public gas transporter (PGT) licence in accordance with the Gas Act 1986, as such licence holders will be best placed and equipped to understand the network and provide advice and ascertain information related to gas escapes and incidents. However, there is nothing within these regulations that prevents the duty being discharged by others who can demonstrate their suitability to fulfil this function through a safety case accepted by HSE.

83 An emergency reporting service provider may be responsible for more than one network. In this case, the relevant network is any of the networks for which the emergency reporting service provider is responsible.

84 A network must have a sole emergency reporting service provider. In the future, gas transporters operating multiple separate gas distribution systems may use different service providers for each system and so there may be multiple emergency reporting service providers operating within Great Britain at the same time. In these cases, the relevant network is the network for which the emergency reporting service provider is responsible.

Guidance 7(1)

85 Given the potential for multiple emergency reporting service providers, the regulations stipulate a requirement that they must all be contactable within Great Britain by the use of the same telephone number. This means that no matter what the geographical location of the gas escape or incident is, the public, consumers and the emergency services are able to use the same contact telephone number. This aids in public safety messaging.

86 Duty holders are expected to co-operate and co-ordinate with one another to ensure calls are routed to the responsible emergency reporting service provider.

87 Where there is more than one emergency reporting service provider, their safety cases must describe the arrangements by which calls (or other means of communication) relating to incidents outside their area of responsibility are promptly and accurately routed to the appropriate emergency reporting service provider.

88 The regulations also permit emergency reporting service providers to offer alternative means for the public, consumers and the emergency services to contact them. Any alternative means of contact must be in addition to the emergency telephone number and not instead of it. An emergency reporting service provider duty holder must make their service accessible via the national gas emergency telephone number but may also supplement this means of contact with alternative means.

89 This alternative means of contact provides duty holders with the opportunity to innovate or make use of technological advancements such as the internet and live-chat functions to report gas escapes. If duty holders make use of this provision, the alternative means of communication must not risk the health and safety of the persons likely to use this service. Such persons will be construed as being the general public, consumers and the emergency services. The emergency reporting service duty holder will be expected to document how the alternative means of communication will ensure that the health and safety of these persons will not be prejudiced in their safety case.

90 The provisions set down for the emergency reporting service provider do not prevent the use of a specific local emergency telephone number for operators of networks (with their own gas conveyor safety cases) where the gas escape emergency response function is embedded within a wider estate management system (such as military facilities). However, suitable co-ordination and communication arrangements must still be in place with the emergency reporting service provider for managing situations where reports of a potential gas escape or CO release have been made directly to that local emergency number instead.

Regulation 7(2)

(2) If an emergency reporting service provider is notified of such an escape of gas it shall, if it is not responsible for preventing the escape under paragraphs (4) or (5), report it forthwith to the person who is.

Guidance 7(2)

91 An emergency reporting service provider is required to immediately contact the relevant gas transporter or their emergency service provider (where different) when an emergency arises from a gas escape or suspected emission of CO, including any reports received by alternative means. The emergency reporting service provider needs to prepare and maintain efficient methods of collecting and recording up-to-date information on the geographical areas covered by each emergency reporting service provider, gas transporter and/or emergency service provider. It will also need to establish arrangements to demonstrate that notifications are passed on promptly. It is possible that calls relating to LPG may be reported to an emergency reporting service provider. Although these regulations do not apply to LPG, LPG suppliers have duties under other regulations to provide an

Guidance 7(2)

emergency response. An emergency reporting service provider may want to consider the arrangements it has with the appropriate organisation or its emergency service provider for dealing with such misdirected calls.

Regulation 7(3)

(3) A person referred to in regulation 6(2)(a) to (c) and the holder of a licence issued under section 7A(1) of the Gas Act 1986 who discovers or is notified of any such escape of gas (other than by virtue of a report made to him pursuant to paragraph (2)) shall report it forthwith to the emergency reporting service provider for the relevant network.

(3A) But paragraph (3) does not apply if the person who discovers or is notified of the escape of gas is the emergency reporting service provider for that network.

Guidance 7(3)

92 On some occasions, consumers may contact suppliers, gas transporters or emergency service providers directly, rather than using the emergency reporting service provider number. Suppliers, gas transporters and emergency service providers will need to demonstrate that they have adequate arrangements for dealing with misdirected calls. They should agree procedures with the emergency reporting service provider for the network for the recording and passing on of information. For example, this could be done by training staff, and the provision of a script which will enable them to obtain the same information as emergency reporting service provider telephone operators. During out-of-office hours, any messaging used by suppliers, gas transporters or emergency service providers, such as telephone messages, webpages or social media, should make clear that the national gas emergency telephone number should only be used for reporting suspected gas escapes. In order to comply with their duties under Regulation 7(4) and (5), gas transporters or the emergency service provider, notified through a misdirected call from the public of an emergency in their area of responsibility, should respond to that emergency without waiting for renotification from an emergency reporting service provider. However, they will still need to notify the emergency to the emergency reporting service provider for the network.

93 In circumstances where the gas transporter or supplier is part of the same organisation as the emergency reporting service provider for the network, such notifications should not be necessary, as long as the gas escape or incident is responded to appropriately and in compliance with Regulation 7(4), (5) and (6).

Regulation 7(4) and (5)

(4) Where any gas escapes from a network the person conveying the gas in the part of the network from which the gas escapes shall, as soon as is reasonably practicable after being so informed of the escape, attend the place where the gas is escaping, and within 12 hours of being so informed of the escape, he shall prevent the gas escaping.

(5) Where any gas escapes from a gas fitting supplied with gas from a network, the person conveying the gas in the part of the network immediately upstream of the emergency control for the supply of gas to that fitting shall, as soon as is reasonably practicable after being so informed of the escape, attend the place where the gas is escaping, and within 12 hours of being so informed of the escape, he shall prevent the gas escaping.

Guidance 7(4) and (5)

94 Gas transporters / emergency service providers should attend the emergency as soon as reasonably practicable after receiving a report of a gas escape. They will also need to ensure that reports of emergencies can be received and responded to 24 hours a day. Once at the emergency site, appropriate steps should be taken to bring the situation under control, and to make the situation safe as quickly as possible. The 12-hour period stipulated in the regulations is the maximum time that should normally be taken to stop gas escaping (see also paragraph 98).

Guidance 7(4)
and (5)

- 95 Gas transporters / emergency service providers will need to ensure that:
- (a) where appropriate they are listed on the Gas Safe Register for work on gas fittings and installation pipework;
 - (b) they employ competent operatives with sufficient knowledge, appropriate equipment, practical skill and relevant experience to deal with all foreseeable emergency situations. Guidance on the scope of training and the need for proper assessment and ongoing reassessment of operatives can be found in Part B of L56 *Safety in the Installation and Use of Gas Systems and Appliances* (HSE, 2018); further detailed information is available in the industry guidance document *Standards of training in gas work* which is available from IGEM (2021);
 - (c) their operatives are trained and familiar with the networks they will be working on, taking into account the competencies required to deal with all the pressure tiers, pipe materials and pipe diameters of each specific network;
 - (d) sufficient numbers of operatives are available to deal promptly with each emergency, no matter how large, in accordance with the requirements of these regulations and as per the procedures and arrangements detailed in their safety case;
 - (e) sufficient numbers of operatives, with appropriate rights-of-entry powers, are available to make situations safe where, for example, gas may have escaped into vacant property;
 - (f) they establish written procedures for operatives to follow; and
 - (g) suitable and sufficient escalation processes exist to manage emergency situations that require them.

96 The primary duty on gas transporters / emergency service providers in the event of an emergency is to make the situation safe. They will need to:

- (a) establish the cause of the escape and take action to make the situation safe by preventing gas from escaping; and/or
- (b) respond to reports of suspected or actual escapes of CO and make the situation safe.

97 If the reported gas escape is from a distribution main, consumers may suffer a loss of pressure or a total loss of gas supply (or both) while the leak is being repaired. Operatives attending such emergencies need to be prepared, fully trained and competent to ensure safe disconnection and safe reinstatement of the gas supply. Safe reinstatement includes checking all appliances for obvious visible signs of spillage of products of combustion when appliances are relit.

98 If gas transporters / emergency service providers find an appliance which is spilling products of combustion, whether in response to a report of a suspected escape of CO, or when relighting appliances after a loss of supply, they should tell the consumer that further use of the appliance is an offence unless and until it is repaired, and they should seek to persuade the consumer to allow them to disconnect it. Gas transporters / emergency service providers have an obligation under Regulation 7(5) to prevent the escape of gas. Therefore, if the consumer refuses to allow the appliance to be disconnected, the gas transporter (or emergency service provider) should exercise their rights-of-entry powers to deal with dangerous appliances. In such circumstances, it would be appropriate to use these powers to physically disconnect the individual appliance or premises from the installation or service pipework. Any appliance which is judged to be dangerous should be suitably labelled to this effect. A report on certain dangerous appliances

Guidance 7(4)
and (5)

must be made to HSE (as required under Regulation 11(2) of RIDDOR). In the case of rented property, the gas transporter / emergency service provider should inform both the tenant and the landlord (or their managing agent) that an appliance is considered dangerous and explain the appropriate action to be taken.

99 Where gas leaks are reported in factories, gas transporters / emergency service providers will need to consider the possible dangers of simply disconnecting the gas supply. There may be processes that depend on the gas directly or indirectly which, if terminated in an uncontrolled way, may have serious safety consequences. It would be sensible for leaks in factory premises to be dealt with only in consultation with the occupier who will be able to provide advice on any related safety consequences. The arrangements to cover all the circumstances described in paragraphs 94–99 will need to be set out in the gas transporter’s safety case.

Regulation 7(6)

(6) Where a person conveying gas in a network has reasonable cause to suspect that gas conveyed by him which has escaped has entered, or may enter, any premises, he shall, so far as is reasonably practicable, take all the steps necessary to avert danger to persons from such entry.

Guidance 7(6)

100 If gas transporters suspect that gas has escaped from part of their network into any premises, including open countryside which is part of agricultural premises, they should ensure, so far as is reasonably practicable, that people are not endangered by the escape.

101 Compliance with this regulation may be achieved through consideration of different options, such as alerting the occupiers of the premises, advising them to open windows and doors, arranging for the evacuation of premises and, if necessary, using rights-of-entry powers to enter unoccupied premises to make the situation safe.

102 Gas conveyors should have a risk-based process in place for determining when the measures outlined in the previous paragraph should be taken. This is determined by the severity of the situation or an appropriate assessment of risk, and the process should be followed in the event of a suspected gas escape into premises.

Regulation 7(7)
and (8)

(7) If the responsible person for any premises knows or has reason to suspect that gas is escaping from a gas fitting in those premises supplied with gas from a network he shall immediately take all reasonable steps to cause the supply of gas to be shut off at such place as may be necessary to prevent further escape of gas.

(8) If gas continues to escape into those premises after the supply of gas has been shut off or when a smell of gas persists, the responsible person for the premises discovering such escape or smell shall immediately give notice of the escape or smell to the emergency reporting service provider for the network from which the premises are supplied with gas.

(8A) But paragraph (8) does not apply if the responsible person is the emergency reporting service provider for that network.

Guidance 7(7)
and (8)

103 Where a gas escape is suspected or known to be occurring, the responsible person (see paragraph 131) should close the ECV or AECV. If the smell of gas persists, the responsible person should immediately notify the emergency reporting service provider that there is a suspected leak of gas, using the emergency reporting service telephone number.

Guidance 7(7) and (8)

104 In the case of a suspected escape of CO, the responsible person should turn off any appliances they suspect of emitting CO and immediately contact the emergency reporting service provider. However, if the responsible person is confident that a particular appliance is the source of the escape, they should ensure that the appliance is not used and contact a Gas Safe registered engineer to repair, replace or otherwise make safe that appliance.

105 In the event that the responsible person is part of the same organisation as the emergency reporting service provider, then Regulation 7(8) will not apply.

Regulation 7(9) and (10)

(9) Where an escape of gas has been stopped by shutting off the supply, no person shall cause or permit the supply to be reopened (other than in the course of repair) until all necessary steps have been taken to prevent a recurrence of such escape.

(10) In any proceedings against a person for an offence consisting of a contravention of paragraphs (4) or (5) above it shall, in so far as the contravention is not preventing the escape of gas within the period of 12 hours referred to in those paragraphs, be a defence for the person to prove that it was not reasonably practicable for him effectually to prevent the gas from escaping within that period, and that he did effectually prevent the escape of gas as soon as it was reasonably practicable for him to do so.

Guidance 7(9) and (10)

106 There may be circumstances, eg a severe fracture of a mains pipe, when it will not be feasible to repair the pipe within 12 hours. Gas transporters will, however, need to ensure that the situation is otherwise brought under control and made safe within 12 hours in order to meet the requirements of this regulation. Where it is not possible to prevent the leak within 12 hours, gas transporters / emergency service providers will need to demonstrate that they took all reasonably practicable steps to do so.

107 The priority must always be to minimise the risk to persons who could reasonably be anticipated to be at risk from the gas escape. So, while it may not be reasonably practicable to prevent the escape or complete a repair within 12 hours of being notified of it, it should be reasonably practicable to remove the risk to persons through various control measures up to and including evacuation of premises.

108 Additional guidance on arrangements for deferring gas escapes beyond 12 hours can be found in HSE guidance: <https://www.hse.gov.uk/gas/supply/deferred-repairs.htm>

Regulation 7(11)

(11) A person conveying gas ("C") may appoint another person to act on C's behalf to prevent an escape of gas, and where C does so in advance of discovering or being notified of such an escape –

(a) C shall notify the emergency reporting service provider for the network of the name of the person appointed;

(b) the appointee shall in relation to the escape be responsible for complying with paragraphs (4) to (6) in substitution for C, and paragraph (6) shall have effect as if the reference to C having reasonable cause to suspect that the gas has entered or may enter premises were a reference to the appointee having such cause.

(11A) But paragraph (11)(a) does not apply where C is the emergency reporting service provider for that network.

Guidance 7(11)

109 Gas transporters ('C') in these regulations may, if they wish, subcontract the provision of their emergency service to another competent organisation (the 'emergency service provider'). In those cases, gas transporters will need to include in their safety case particulars of the arrangements they have established for the appointment of their emergency service provider. They will also need to include details of the emergency service provider's arrangements to respond to emergencies (see paragraphs 221–226). The emergency service provider will need to comply with the relevant provisions of the safety case.

110 The emergency service provider who undertakes the provision of the emergency service should ensure that they have sufficient resources to effectively discharge the duty, especially when they are providing a service to multiple operators. The emergency service provider must be confident that they will be able to comply with the emergency response duties these regulations place on them before entering into commercial arrangements with gas transporters.

111 In the event that the appointed emergency service provider is part of the same organisation as the emergency reporting service provider, then Regulation 7(11)(a) will not apply.

Regulation 7(12) and (13)

(12) Where an escape of gas from a gas fitting on domestic premises has resulted in a fire or explosion, the person conveying the gas in the part of the network immediately upstream of the emergency control for the supply of gas to that fitting shall, as soon as is reasonably practicable after receiving notice of the fire or explosion, cause an investigation to be carried out so as to establish, so far as is reasonably practicable, whether the escape was from installation pipework or from an [appliance], and if so which, appliance.

(13) Where an escape of gas from a network has or was likely to have resulted in a fire or explosion, the person conveying the gas in the part of the network where the gas escaped shall, as soon as is reasonably practicable after receiving notice of the escape, cause an investigation to be carried out so as to establish the source of the escape and, so far as is reasonably practicable, the reason for it.

Guidance 7(12) and (13)

112 Following receipt of a notification of, or having discovered, a fire or explosion caused by a gas escape, whether upstream or downstream of the emergency control at the end of the service pipe, gas transporters or their appointed agents should investigate the incident to establish the source of the gas leak. Before starting any investigation, an assessment of the risks to people entering the site should be made. Account should be taken of, for example, the risk of further structural collapse, or secondary fires or explosions. The investigation should only be undertaken to the extent that it is safe to do so, and in so far as any damage to installation pipework and appliances allows.

113 As well as being a legal requirement, GSMR investigations can enable duty holders to check their performance and learn lessons to improve their health and safety management system.

114 Where an investigation into an incident is undertaken by HSE and/or the police, it will take precedence over any parallel investigation initiated by a gas conveyor. Under these circumstances it is recognised that there may be a delay in the conveyor concluding their investigation (and submitting their investigation report).

115 Fires and explosions in premises can occur as a result of a leak on a main, service pipe, installation pipework or appliance. Gas transporters will, therefore, need to adopt a systematic approach to establishing whether the gas leak originated in the premises or from their pipes. Where evidence indicates that the

**Guidance 7(12)
and (13)**

leak was on the consumer's side, gas transporters should carry out confirmatory checks. To establish whether the leak was on installation pipework, it will probably be appropriate to conduct a pressure check of the installation pipework. In conducting these tests, the investigator should record any obvious visible signs that there had been an escape of gas from an appliance (eg a gas tap left open).

116 For the purposes of the report, evidence that the taps were left open would need to be set in the context of other failures, eg leaks from installation pipework. In such circumstances, it would be acceptable to record the source of the leak as the installation pipework rather than the appliance. Where obvious visual signs point towards an appliance being the source of the leak, and there is an absence of any evidence of leakage from installation pipework, it will be sufficient for the purpose of the investigation to record those appliances, if any, which exhibit obvious visible signs that gas could have escaped from them.

117 Where the investigation establishes that the leak was on a main or service pipe, a fuller investigation of the cause will be necessary under Regulation 7(13). An investigation will also be required where a gas escape was of a sufficient scale to have made a fire or explosion likely, even though it had not ignited.

118 A 'weeping joint' would not be expected to require investigation because the scale of the leak would be unlikely to result in a sufficiently large gas/air mixture above the lower explosive limit to accumulate in practice. However, an investigation of leaks would be expected where gas transporters, or their emergency service providers, judged it prudent in the interests of safety to evacuate property, or in more remote areas, to close public highways etc.

119 Procedures detailing how investigations of fires or explosions caused by gas escapes are to be undertaken should be set down in the duty holder's safety case. For example:

- (a) Policy and arrangements – conveyors should have a clear policy and organisational arrangements for incident investigations. These should show how the conveyors meet their safety case commitment to investigate incidents and accidents. The policy and arrangements should be integrated into the conveyor's wider health and safety management system.
- (b) Aims and objectives – the investigation should be systematic with clear objectives that are understood by all involved. It should establish both immediate and underlying causes, and its conclusions should be consistent with the evidence. The likelihood of recurrence and possible consequences should be considered and any emerging trends identified. Wherever possible, suitable steps to address the root causes and prevent recurrence should be identified and reflected in the recommendations for further action.
- (c) Incident classification and allocation of resources – a system to categorise incidents based on potential, as well as actual, consequences should be used to ensure that the scale and depth of the investigation are proportionate to the incident. It may be sufficient for supervisors to investigate minor incidents with limited potential consequences. On the other hand, a major incident involving actual or potential death, injury or critical system failure may justify a detailed investigation led by senior management and with input from independent experts.
- (d) Competence – incident investigation is specialised work, therefore conveyors should ensure that investigations are carried out by people

Guidance 7(12) and (13)

with the right knowledge and expertise. A variety of people and disciplines may need to be involved in a more complex investigation.

- (e) Managing the investigation – where possible, and particularly in more serious cases, there should be independent oversight by a senior manager or safety professional not directly involved in the investigation. They should monitor the quality of the investigation, verify that appropriate conclusions have been drawn, and have the credibility to challenge the investigators and make authoritative judgements.

120 The investigation should be approached systematically and the procedures should include details of the sequence of steps to be taken and how information is to be recorded. All reports should include the following:

- (a) Brief description of the circumstances – this will be largely factual and, for simple investigations, may be short. Possible headings include:
- Location/address;
 - Date and time of event;
 - Time notification received;
 - Reported by;
 - Details of notification, eg fire / explosion / gas leak, plus any injuries;
 - Notification to HSE – date / time / who by / by whom received at HSE / indication of proposed HSE action;
 - Site arrival times;
 - Persons, plant, premises and procedures involved;
 - Site investigation, eg what was found and what was done.
- (b) For complex incidents, a timeline that identifies significant factors or events is useful. The front cover of the report should clearly state:
- whether the incident falls under GSMR Regulation 7(12), 7(13) or 7(14);
 - if HSE is investigating, the name of the investigating inspector; and
 - the relevant RIDDOR reference number (where applicable).
- (c) Causal factors – incidents rarely have a single cause and there are often underlying failures in the management system. Good investigations identify both immediate and underlying causes, including human factors (see HSG48 *Reducing Error and Influencing Behaviour* and HSE guidance: <https://www.hse.gov.uk/humanfactors/topics/investigation.htm>).

121 Immediate causes may be easy to identify but underlying causes can be less obvious. For example, the immediate cause of an incident may have been an employee's failure to follow a procedure; however, there may be a number of underlying factors, such as poor supervision, insufficient competence, equipment failure / unavailability, time pressure etc. If these issues are not considered, underlying factors that could lead to further incidents won't be put right. Employees may also be blamed unfairly; this damages trust and can have an adverse impact on the organisation's safety culture.

122 In complex investigations, more structured techniques can be used to identify underlying causes, eg failure mode and effects analysis, fault tree analysis.

Guidance 7(12) and (13)

123 Investigation reports should also include conclusions and recommendations. There should be a prioritised list of remedial actions and recommendations, with clearly allocated responsibilities and completion dates. The report should also describe the monitoring and review process that will be used to check that actions have been completed and to confirm that the actions have achieved the desired effect.

124 Where an investigation identifies learning to prevent recurrence, this should be properly assessed and implemented by the gas conveyor.

Regulation 7(14)

(14) Where an incident notifiable under regulation 6(1) of the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995⁽¹⁾ has arisen as a result of an escape of carbon monoxide gas from incomplete combustion of gas in a gas fitting, the person who supplied the gas shall, as soon as is reasonably practicable after receiving notice of the incident, cause an investigation to be carried out so as to establish, so far as is reasonably practicable, the cause of the escape and accumulation of the carbon monoxide gas.

(1) SI 1995/3163 [updated to RIDDOR 2013 11 (1) by section 17 of the Interpretation Act 1978].

Guidance 7(14)

125 Suppliers should establish procedures for receiving reports from gas transporters where a death or injury notifiable under RIDDOR has occurred as a result of exposure to CO produced by a gas fitting. The supplier will need to take steps to identify both the circumstances that led to the escape of CO, and the reasons why it built up to such an extent that a death or major injury resulted. If the supplier does not have the necessary expertise, a third party may be appointed to undertake the investigation. The duty holder will need to be satisfied that the third party is competent to carry out the investigation. Arrangements should also be made for a scientific investigation to be carried out where appropriate. Those undertaking scientific work need not be Gas Safe registered, but where it is necessary to break gas ways or do other work on gas fittings, eg removal of an appliance, they should be accompanied by someone who is.

Regulation 7(15)

(15) Where a person who conveys gas receives notice of an incident referred to in paragraph (14), he shall, as soon as is reasonably practicable, inform the relevant gas supplier of that fact.

Guidance 7(15)

126 Gas transporters will need to establish arrangements to ensure that details of incidents notifiable under Regulation 11(1) of RIDDOR, caused as a result of an escape of CO, are passed to the relevant supplier promptly and accurately. This information should be consistent with that provided to HSE in the RIDDOR report. Contact points will need to be established and kept up to date.

Regulation 7(16)

(16) A person who causes an investigation to be carried out pursuant to paragraphs (12), (13) or (14) shall –

- (a) ensure that the individuals who carry it out are competent;*
- (b) notify the Executive before the investigation begins of the intention to carry it out;*
- (c) ensure that a report of the investigation is prepared and a copy of it is sent to the Executive as soon as is reasonably practicable after the investigation has been completed.*

Guidance 7(16)

127 Investigating incidents is specialised work. It is important that duty holders establish arrangements to ensure that they are carried out only by people with the necessary skills, knowledge and expertise.

Guidance 7(16)

128 Once a situation is made safe, it is important that HSE is informed before any evidence is disturbed. The purpose of this is to provide HSE with the opportunity, if appropriate, to carry out its own investigation. Under this regulation, the person who instigates the investigation has duties to notify HSE of the investigation in addition to notifying HSE of incidents under RIDDOR. HSE should be informed of the investigation as soon as is reasonably practicable, and should not have to wait to be notified until a formal report is made under RIDDOR.

129 The duty holder is required to send a copy of the completed investigation report to HSE. This should be done irrespective of whether HSE has carried out its own investigation. The report should provide a brief description of the incident and details of the causal factors and of any appropriate remedial action taken or proposed.

130 HSE has produced reporting requirements guidance for RIDDOR and GSMR on its website.

Regulation 7(17)

(17) *In this regulation –*

(a) *“the responsible person” has the same meaning as in regulation 2(1) of the 1998 Regulations;*

Guidance 7(17)

131 ‘The responsible person’, as referred to in Regulation 7(7), in relation to any premises, means the occupier of the premises, or where there is no occupier, or the occupier is away, the owner of the premises or any other person with authority to take appropriate action in relation to any gas fitting in those premises (eg the landlord or the managing agent).

Regulation 7(17)

(b) *any reference to an escape of gas from a gas fitting includes a reference to an escape or emission of carbon monoxide gas resulting from incomplete combustion of gas in such a fitting;*

Guidance 7(17)

132 The requirements of Regulation 7 apply both to escapes of gas and to suspected or actual emission of CO from gas appliances.

Regulation 7(17)

(c) *any reference to a fire or explosion of gas is a reference to an unintended fire or explosion of gas;*

(d) *any reference to a person supplying gas does not include a reference to a person to whom the gas is supplied and who provides it for use in a flat or part of premises let by him.*

Guidance 7(17)

133 A landlord of a flat, or part of a building, or parts of premises (eg an individual holiday home at a holiday park) which they own and let, is not a supplier within the meaning of these regulations. Therefore the duty conveyed by Regulation 7(14) which relates to suppliers shall not apply to such landlords.

Regulation 8 Content and other characteristics of gas

Regulation 8(1) and (2)

(1) *No person shall, subject to paragraphs (1A) to (4), convey gas in a network unless the gas conforms with the requirements specified in Part I of Schedule 3.*

(1A) *A person may convey out of specification biogas from a relevant facility in a relevant pipe for treatment or blending so as to bring it into conformity with those requirements.*

(1B) *For the purposes of paragraph (1A) –*

Regulation 8(1) and (2)

“out of specification biogas” means gas which –

(a) is biogas or produced from biogas, and

(b) does not conform with the requirements specified in Part I of Schedule 3;

“relevant facility” means a biomethane production facility or a gas processing facility;

“relevant pipe” means a pipe used exclusively for conveying gas (including out of specification biogas) to –

(a) the point where the gas is treated or blended, or

(b) that point and non-domestic premises.

(2) The network emergency co-ordinator may, where it is necessary to prevent a supply emergency and in accordance with the arrangements specified in his safety case pursuant to paragraph 3(d) of Schedule 2, authorise, for the period specified in the authorisation, gas not conforming with the requirements specified in Part I of Schedule 3 to be conveyed in the network if the gas conforms with the requirements specified in Part II of that Schedule.

Guidance 8(1) and (2)

134 The conditions under which out-of-specification gas which is not biogas or biomethane may be conveyed in pipelines have been outlined in paragraphs 31 and 34–35.

135 Regulation 8(1A) refers to the arrangements for conveying biogas or biomethane (which does not comply with Part I of Schedule 3) to treatment or blending points in order to bring that biogas or biomethane within specification. This gas is known as out-of-specification biogas. Out-of-specification biogas may be conveyed from a gas processing facility or a biomethane production facility to a treatment or blending point in a pipe used exclusively for this purpose. This pipe will form part of the network and an accepted safety case must be in place before the gas is conveyed.

136 The only scenario in which any out-of-specification gas may be conveyed without a safety case is in relation to Regulations 2(4)(a) and 2(4)(b), when out-of-specification gas (which is not biogas or biomethane) is conveyed in pipelines used exclusively to convey that gas to a treatment or blending point, or to non-domestic premises. This was also explained in paragraphs 31 and 34–35.

137 The regulations therefore have the effect that when all gas which conforms with Part I of Schedule 3 is conveyed from a gas processing facility, biomethane production facility, storage facility or an interconnector, the pipelines conveying that gas are considered to be part of the network and will require a safety case. The only exception is when that gas is conveyed in pipelines used exclusively to supply non-domestic premises.

138 The regulations recognise that in some circumstances the introduction of out-of-specification gas into the network is preferable in safety terms to the loss of supply. Where the network emergency co-ordinator (NEC) identifies a forthcoming supply emergency or where one already exists, they may, in order to avoid the need for gas transporters to direct consumers to cease using gas, authorise gas transporters to convey gas which falls outside the normal specifications. Part II of Schedule 3 sets down the specification limits of the gas which may be authorised by the NEC.

Regulation 8(3)

(3) *An authorisation under paragraph (2) may be given orally or in writing and may be withdrawn at any time.*

Guidance 8(3)

139 Depending on the circumstances, eg the speed at which an emergency develops, the NEC may authorise gas transporters orally or in writing. It will generally be helpful for the safe management of an emergency if the NEC gives some indication to gas transporters of the likely period during which the authorisation will remain in place. To avoid doubt, and to assist gas transporters in co-ordinating the actions of others (eg producers, terminal operators and shippers), it may be prudent to confirm oral authorisations in writing, eg electronically.

Regulation 8(4)

(4) *Where only one person conveys gas in a network, he may, where it is necessary to prevent a supply emergency and in accordance with the arrangements specified in his safety case pursuant to paragraph 19 of Schedule 1, convey gas which does not conform with the requirements specified in Part I of Schedule 3 if the gas conforms with the requirements specified in Part II of that Schedule.*

Guidance 8(4)

140 Where there is no NEC because there is only one gas transporter on the network, that gas transporter may convey out-of-specification gas through its pipes in the event of a supply emergency (see paragraph 138). This out-of-specification gas must, however, conform with the limits set out in Part II of Schedule 3.

Regulation 8(5) and (6)

(5) *A person who conveys gas in a network shall ensure that suitable and sufficient tests are carried out to ensure that the gas conforms with the requirements of paragraphs (1), (2) or (4), as appropriate.*

(6) *But paragraph (5) does not apply in respect of any out of specification biogas which is conveyed in a relevant pipe as permitted by paragraph (1A).*

Guidance 8(5) and (6)

141 To demonstrate that gas being transported meets the composition requirements, appropriate tests need to be carried out. Gas transporters should establish the criteria for these tests and who will conduct them. Use can be made of test data provided by third parties, provided that data is relevant and procedures have been established to monitor its validity.

142 The results of the tests should be kept in accordance with Regulation 9(1)(g).

143 This provision does not apply to out-of-specification biogas when it is being conveyed to a treatment or blending point in order to bring it within the specifications of Part I of Schedule 3.

Regulation 9 Keeping of documents

Regulation 9(1)

(1) *A person who prepares a safety case pursuant to these Regulations shall –*

(a) *ensure that when the safety case is sent to the Executive for acceptance it is notified of an address in Great Britain for the purposes of sub-paragraphs (b) to (f) below;*

(b) *keep the accepted safety case and any revision thereof or a copy thereof at that address;*

(c) *keep each audit report made by him or a copy thereof at that address;*

(d) *ensure that a record is made of any action taken in consequence of such an audit report and keep that record or a copy thereof at that address;*

Regulation 9(1)

- (e) ensure that a report is made of every review carried out by him pursuant to regulation 4(3) and ensure that a copy is sent to the Executive;
- (f) keep such report or a copy thereof at that address; and
- (g) ensure that a record is made of every test carried out pursuant to regulations 8(5) and 10(6) in relation to gas he conveys and keep that record or a copy thereof at that address.
- (2) Each report and record required to be kept by paragraph (1) shall be kept for a period of 3 years after it has been made, and the safety case and revision shall be kept for so long as it is current.
- (3) It shall be sufficient compliance with paragraph (1) for the information in the documents to be kept at the address notified on film or by electronic means provided that the information is capable of being reproduced as a written copy at that address and it is secure from loss or unauthorised interference.
- (4) Where a person has notified an address pursuant to sub-paragraph (a) of paragraph (1), he may notify to the Executive a different address in Great Britain for the purposes of the provisions referred to in that sub-paragraph, and where he does so references in those provisions and in paragraph (3) where applicable to the address notified shall be construed as the address in the last notification made under this paragraph.
- (5) In this regulation "audit report" means a report made pursuant to the arrangements referred to in paragraph 11 of Schedule 1 or paragraph 4 of Schedule 2 (to the extent that the later mentioned paragraph relates to arrangements for audit).

Guidance 9(1)

144 An accepted safety case will be an important reference document for both management and safety representatives, and for those who have to co-operate with the gas transporter (see also paragraphs 72–79); it may also be a starting point for inspection by HSE. It is important, therefore, that copies of the safety case and the particulars relevant to it are kept readily available. Similarly, any audit report should include a written statement recording the main findings and recommendations of the report, and the proposed action plan.

145 However information (including legacy information) is stored, arrangements will need to ensure that it can be easily accessed, read and copied by all those who have a legitimate need to do so, including safety representatives and HSE officials. Procedures will also be needed for revising and updating the information so that only authorised changes can be made, and all copies are simultaneously amended.

Regulation 10 Transitional provisions

Regulation 10(1)

Pipes used to convey biogas or gas made from biogas: transitional provisions

- (1) A BPF pipe transporter ("B") may continue to convey gas in a BPF pipe on and after 6th April 2023 despite the fact that B does not have a safety case prepared pursuant to regulation 3(1)(a) which has been accepted by the Executive.
- (2) But paragraph (1) ceases to apply to B –
- (a) on 6th October 2024, if B has not prepared a safety case pursuant to regulation 3(1)(a) and sent it to the Executive before that date;

Regulation 10(1)

(b) if the Executive rejects the safety case prepared by the BPF transporter pursuant to regulation 3(1)(a), on the date on which the Executive rejects B's safety case (whether this date is before, on or after 6th October 2024).

(3) In this regulation –

“BPF pipe transporter” means a person who, immediately before 6th April 2023 –

(a) is conveying gas in a BPF pipe; and

(b) is not conveying gas in any part of any existing network to which the BPF pipe is connected;

“BPF pipe” means a pipe conveying gas from a biomethane production facility which, immediately before 6th April 2023 –

(a) is connected to an existing network; but

(b) is not treated as part of that network for the purposes of these Regulations;

“existing network” means a network within the meaning of these Regulations as they had effect immediately before 6th April 2023.

Guidance 10(1)

146 This transition period applies to pipeline operators who are conveying biomethane in a pipeline which is not part of the network as defined by GSMR 1996, and:

- (a) were conveying that gas without a safety case up to and including 6 April 2023; and
- (b) whose pipeline is connected to a gas network, as defined by the definition of a network in force up to and including 6 April 2023, but upstream of the connection point, they are not the pipeline operator, and therefore not conveying gas in that part of the network.

147 A pipeline operator conveying biomethane from a gas production facility, gas processing facility or production plant and connecting to a treatment point, blending point, or directly to a gas distribution pipeline, will be covered by this transition period, as long as they are not conveying gas upstream of the blending point, treatment point or injection site to the gas distribution network.

148 Such pipeline operators who are conveying biomethane may continue to convey gas in their pipeline without a safety case accepted by HSE (if they do not already have one) until 6 October 2024.

149 However, in order to comply with these regulations, the pipeline operator will need to prepare and submit a safety case application to HSE before 6 October 2024 if they are conveying gas without a safety case. They may continue to convey gas in their pipeline after this date until their safety case application has been assessed by HSE and they have received a decision, but only if they have submitted a safety case before 6 October 2024.

150 If, on that date, the pipeline operator who is conveying biomethane has not prepared and submitted a safety case to HSE, then they will be in breach of these regulations.

151 HSE may reject the pipeline operator's safety case application. This invokes a right of appeal and duty holders may appeal to HSE's chief executive within 21 calendar days of receipt of the letter of rejection.

Guidance 10(1)

152 Should HSE reject a safety case application, and the decision is upheld at any appeal, then the pipeline operator must stop conveying biomethane in their pipeline on the day that HSE upholds that decision. They may only resume conveying gas when they have a safety case accepted by HSE.

Regulation 10A

Transitional provisions: emergency reporting service provider safety case

10. – (1) *This regulation applies where, immediately before 6th April 2023, a person (“P”) has an accepted EHP safety case.*

(2) *P’s accepted EHP safety case is to be treated, on and after 6th April 2023, as if it had been prepared pursuant to, and accepted by the Executive under, regulation 3(3A).*

(3) *Accordingly, on 6th April 2023, P becomes the emergency reporting service provider for each network.*

(4) *Regulation 4 applies in relation to P as if the requirement in paragraph (3) of that regulation to make a thorough review of the contents of its accepted EHP safety case every three years were a requirement to –*

(a) *make a thorough review of the EHP safety case by the end of the period of three years beginning with the day on which P last reviewed that safety case, and*

(b) *at least every three years thereafter.*

(5) *Nothing in this regulation prevents P from giving written notice for the purposes of regulation 3(3B) on or after 6th April 2023 in relation to any or all of the networks.*

(6) *In this regulation “accepted EHP safety case” means a safety case prepared pursuant to, and accepted by the Executive under, paragraph 3 of exemption No. 8 of 2016 granted by the Executive in pursuance of its powers under regulation 11(1) of these Regulations on 5th September 2016 to National Grid Gas Distribution Limited, a company registered in England and Wales with the company number 10080864.*

Guidance 10A

153 This transition provision applies to the current operator of the national gas emergency service and enables them to continue to provide the service, under the new guise of the emergency reporting service, using their existing safety case.

154 When the amended regulations came into force on 6 April 2023, the existing operator became the emergency reporting service duty holder for all networks in Great Britain until such time as a new provider is appointed for a network.

155 The existing provider will need to review their existing safety case, in compliance with Regulation 4(3), three years after their last review, and every three years thereafter. The review period does not reset upon the establishment of the amended regulations.

156 Should they wish, the existing provider may also provide written notice to HSE that they no longer intend to act in that capacity at any time following the coming-into-force date of 6 April 2023. If this situation arises, the duty holder will need to comply with Regulation 3(3C) of the amended regulations.

Regulation 11 Exemptions

Regulation 11

(1) Subject to paragraph (2), the Executive may, by a certificate in writing, exempt any person or class of persons from any requirement or prohibition imposed by these Regulations, and any such exemption may be granted subject to conditions and to a limit of time and may be revoked at any time by a certificate in writing.

(2) The Executive shall not grant any such exemption unless, having regard to the circumstances of the case and in particular to –

- (a) the conditions, if any, which it proposes to attach to the exemption; and
- (b) any other requirements imposed by or under any enactment which apply to the case;

it is satisfied that the health and safety of persons likely to be affected by the exemption, will not be prejudiced in consequence of it.

Guidance 11

157 Under Regulation 11, HSE may exempt duty holders from any of the requirements or prohibitions imposed by the regulations if it is satisfied that the health and safety of persons likely to be affected by the exemption will not be prejudiced in consequence of it. Duty holders may therefore request to be exempted from certain parts of the requirements of GSMR (such as the duty to produce a safety case) while still having to comply with other parts of GSMR.

158 Any such application for an exemption must be made to HSE, who will assess the application in accordance with the process it has outlined publicly in the [Safety Case Assessment Manual](#) (HSE Energy Division, 2017). The process of assessing a request for an exemption is similar to assessing a safety case.

159 After assessment of the application, HSE will provide the duty holder with a decision in writing. Where the application is accepted, an exemption certificate will be issued. The exemption certificate may impose conditions (eg HSE may impose a time limitation for the exemption to be valid, or the requirement to undertake a periodic review to confirm that the conditions pertinent to the initial granting of the exemption are still relevant).

160 Failure to comply with any conditions will render the exemption certificate void.

Regulation 12 Repeals, revocations and amendment

Regulation 12

Regulation 12 of GSMR 1996 is revoked.

Regulation 13 Insertion of Regulation 13

Regulation 13

Review of these Regulations

(1) The Secretary of State must from time to time –

- (a) carry out a review of the regulatory provisions contained in these Regulations, as amended by the Gas Safety (Management) (Amendment) Regulations 2023;
- (b) set out the conclusions of the review in a report; and
- (c) publish the report.

Regulation 13

(2) Section 30(4) of the Small Business, Enterprise and Employment Act 2015 requires that a report must in particular –

(a) set out the objectives intended to be achieved by the regulatory regime established by the regulatory provisions referred to in paragraph (1)(a),

(b) assess the extent to which the objectives are achieved, and

(c) assess whether those objectives remain appropriate, and if so, the extent to which they could be achieved by a system which imposes less onerous regulatory provision.

(3) The first report must be published before the end of the period of five years beginning with 6th April 2023.

(4) Subsequent reports must be published under this regulation at intervals not exceeding five years.

(5) In this regulation “regulatory provision” has the same meaning as in sections 28 to 32 of the Small Business, Enterprise and Employment Act 2015 (see section 32 of that Act).

Guidance 13

161 Regulation 13 is inserted by the Gas Safety (Management) (Amendment) Regulations 2023.

162 Section 28 of the Small Business, Enterprise and Employment Act 2015 places a statutory duty on ministers to either include review provisions in secondary legislation that regulates business or publish a statement in the Explanatory Memorandum accompanying the regulations that it is not appropriate to do so. HSE and ministers have decided that review provisions are appropriate for these regulations.

163 The review must take the following form:

- (a) a published report which describes the objectives of the regulatory intervention;
- (b) an assessment of whether those objectives have been achieved; and
- (c) an assessment of whether the regulatory intervention remains appropriate, or whether the activity could be de-regulated.

These provisions ensure that monitoring and evaluation of the regulatory intervention take place.

164 HSE will review these regulations at five-year intervals. The first review is likely to include analysis of relevant data sets and statistics, gathering of evidence, and discussion and collaboration with duty holders and relevant stakeholders. Following such activity, the review is likely to be published on an appropriate government platform.

165 The evidence obtained from the review will be used to ascertain whether changes are required to the regulations, or new policy interventions are required to manage the health and safety of the activities being regulated. The scope and depth of any subsequent reviews will depend to a significant extent on the findings of the first review and subsequent engagement with duty holders and stakeholders.

Regulation 14 Amendment of Schedule 3

Regulation 14

- (1) Schedule 3 (content and other characteristics of gas) is amended as follows.
- (2) In Part 1 –
- (a) in the table following paragraph 1 –
- (i) in the entry for “oxygen content”, for “ $\leq 0.2\%$ (molar)” substitute “ $\leq 1.0\%$ (molar), where the gas is conveyed in a pipe operated at a pressure of ≤ 38 barg, and $\leq 0.2\%$ molar, where the gas is conveyed in a pipe operated at a pressure of > 38 barg”;
- (ii) in the entry for “impurities”, for “the 1994 Regulations” substitute “the 1998 Regulations”;
- (iii) in the entry for “hydrocarbon dew point and water dewpoint”, for “the 1994 Regulations” substitute “the 1998 Regulations”;
- (iv) after that entry insert –
“RD ≤ 0.700 ”;
- (v) in the entry for “WN”, for “ ≥ 47.20 MJ/m³” substitute “ ≥ 46.50 MJ/m³”;
- (vi) omit the entry for “ICF”;
- (vii) omit the entry for “SI”;
- (b) in paragraph 3, for “the 1994 Regulations” substitute “the 1998 Regulations”;
- (c) in paragraph 4 omit sub-paragraph (2).
- (3) In Part 2 –
- (a) in paragraph 1 –
- (i) omit sub-paragraph (b);
- (ii) after that sub-paragraph insert –
“(c) RD ≤ 0.700 ”;
- (b) in paragraph 2 omit sub-paragraph (2).
- (4) In Part 3 –
- (a) in paragraph 1 –
- (i) omit the definition of “C₃H₈”;
- (ii) omit the definition of “equivalent mixture”;
- (iii) omit the definition of “ICF”;
- (iv) after that definition insert – ““gross calorific value” means the gross calorific value, expressed in MJ/m³, of a dry gas determined on the basis that the water produced by combustion is assumed to be condensed;”;
- (v) in the definition of “mg/m³” for “at 15C and 1.01325 bar” substitute “under the reference conditions”;
- (vi) for the definition of “MJ/m³” substitute – ““MJ/m³” means megajoules per cubic metre under the reference conditions;”;

Regulation 14

- (vii) omit the definition of “N₂”;
- (viii) omit the definition of “PN”;
- (ix) for the definition of “relative density” substitute –
 ““relative density” (“RD”) means the ratio of VG to VA (expressed in the same units) where –

 VG is the mass of a volume of the gas when containing no water vapour under the reference conditions; and

 VA is the mass of the same volume of air containing no water vapour under those conditions;”;
- (x) omit the definition of “SI”;
- (xi) for the definition of “WN” substitute –
 ““WN” means the Wobbe Number of the gas, which is calculated in accordance with the following formula –

 “gross calorific value ÷ √relative density.”;
- (xii) omit “trigonometric functions are to be evaluated in radians.”;
- (b) after paragraph 1 insert –
 “1A. In this Schedule, the reference conditions are 15C and 1.01325 bar.”;
- (c) omit paragraph 2.

Guidance 14

166 Please see guidance for this regulation under Schedule 3.

Regulation 15 Amendment of the Health and Safety and Nuclear (Fees) Regulations 2022

Regulation 15

- (1) The Health and Safety and Nuclear (Fees) Regulations 2022 are amended as follows.
- (2) In regulation 15 (fees payable in respect of gas safety functions) –
 - (a) in paragraph (2), for “or by a network emergency co-ordinator” insert “, by a network emergency co-ordinator or by an emergency reporting service provider”;
 - (b) in paragraph (4), for the definition of ““network”, “network emergency co-ordinator” and “safety case”” (other than “and” at the end) substitute –
 ““emergency reporting service provider”, “network”, “network emergency co-ordinator” and “safety case” have the meanings given in the 1996 Regulations (see regulation 2(1) of those Regulations);”.
- (3) In Schedule 11 (fees payable in respect of gas safety functions), in column 2 for “or the network emergency coordinator”, in both places it occurs, substitute “, the network emergency co-ordinator or the emergency reporting service provider”.

Guidance

15

167 These regulations amend the Health and Safety and Nuclear (Fees) Regulations 2022 to enable cost recovery to extend to the emergency reporting service provider, reflecting the fact that the emergency reporting service provider now requires a specific safety case.

168 These amendments align the emergency reporting service provider in the same cost recovery regime as persons conveying gas, the network emergency co-ordinator, and persons requesting exemptions under Regulation 11.

Content of safety cases: general guidance

Guidance

Main elements of a safety case

169 Safety cases should contain sufficient information to demonstrate that the duty holder's operations are safe and that the risks to the public and employees are as low as reasonably practicable. Safety cases will not be considered for acceptance unless they contain all the particulars specified in the relevant schedules to the regulations. The format of the safety case is for the gas transporter to decide, but it will be helpful to HSE if the material is structured in the following way:

- (a) factual information about the operation;
- (b) the arrangements, assessments and other details required by the schedules, including those relating to the management system, its audit, assessment of risks and risk control measures, and arrangements for handling supply emergencies;
- (c) a summary covering the main features of (b) above.

170 If a gas transporter has more than one distribution system connected to the network (eg independent gas transporters), the gas conveyor safety case will need to reflect that and ensure that the descriptive aspects of the safety case meet the requirements of Schedule 1 for each individual distribution network.

171 The amount of detail that needs to be included in the safety case will depend on the complexity of that part of the network being considered. Clearly, where the relevant part of the network is used to convey gas to only one or two industrial operations or to a simple domestic system, eg a housing estate, the safety case will not need to be either substantial or complicated.

Co-operation between gas transporters and other duty holders

172 A gas transporter's safety case needs to address the risks which are presented by the interfaces between their operations and the activities of other gas transporters etc. In preparing or revising a safety case, the gas transporter should, therefore, consult other parties as far as is necessary to ensure that the safe management of the flow of gas is properly managed at the interfaces, and that there are adequate arrangements for dealing with gas leaks close to the boundary of two (or more) parts of a network. The parties will need to be sure that the various activities are compatible with each other and that, taken together, the management arrangements and operational measures will result in effective control of the risks.

173 Regulation 6(2) places a duty on gas transporters, the emergency reporting service provider, the network emergency co-ordinator, holders of a licence issued under section 7A of the Gas Act 1986, producers, terminal operators, storage operators and others to co-operate with each other to maintain safety across the network. It will be important for gas transporters to come to workable agreements and operational arrangements with these duty holders to maintain safety on their part of the network, and enable them to conform with their respective safety cases. In establishing these arrangements, consideration should be given to the extent and manner in which each party is able to contribute to the safe flow of gas, and for which it is appropriate for them to do so, taking into account the extent to

Guidance

which the matters concerned are properly within their control. The details of these arrangements should be set down in the gas transporter's safety case.

References to other documentation

174 The safety case should, where appropriate, refer clearly to supporting detail contained in other company documents (eg operating procedures). HSE may subsequently ask to see such supporting documentation where necessary to verify certain aspects of the safety case.

175 The division between the material to be included in the safety case and any additional supporting documentation (which can be provided to HSE on request) must ultimately be a matter of judgement. HSE may, if it considers that the safety case is insufficiently detailed, request further information to be included in the safety case itself. As a guiding principle, the safety case should be presented as a self-contained document that:

- (a) sets out clearly the safety principles that the duty holders will adopt in order to discharge their duties under these regulations; and
- (b) includes sufficient detail to lend conviction to those principles, enabling requests for supporting documentation to be the exception rather than the rule. Accordingly, where the safety case refers to other documents, a summary of their contents should be included where appropriate and practicable. Where supporting documents or details are fundamental to demonstrating that operations are safe, then they should be included as appendices to the safety case.

Assessment of safety cases

176 HSE will make public the administrative arrangements, procedures and timetable for assessing safety cases. Assessment procedures will be designed to facilitate timely discussion between HSE and gas transporters, leading to agreement on any necessary changes that may be needed. These may include, for example, additional information or analysis, or actual improvements to establish a satisfactory case for safety.

177 The procedures will include a requirement for HSE to provide in writing reasons for not accepting a safety case. A safety case will not be rejected without the gas transporter first having been given the opportunity to rectify any issues raised by HSE. Any gas transporter whose safety case is rejected will be able to appeal against that decision. It is expected that this arrangement will rarely, if ever, need to be used.

178 These principles will also apply to exemption applications made under Regulation 11.

Access to accepted safety cases

179 Once a safety case has been accepted, it will provide an important reference for management, safety representatives and safety committees. It may also provide the starting point for inspection by HSE. When any revision is made, it is important that the latest version of the safety case is always easily identifiable and accessible. One way of ensuring this is to routinely incorporate all amendments into the safety case as they are made, rather than keeping them separate. It is important to ensure that other parties, who have duties to co-operate with the gas transporter to fulfil the arrangements set down in the safety case, also have access to the

Guidance

relevant parts of the safety case and are kept informed of any amendments (see paragraph 173). In accordance with Regulation 4(2), where revisions have a material effect on the safety case, the current revised safety case, or its relevant part, should be resubmitted to HSE for acceptance. The changes should not be implemented until the revised safety case, or relevant part, has been accepted by HSE (see paragraphs 62–66).

Other associated legislation

180 The Gas Safety (Management) Regulations 1996 (GSMR) are concerned essentially with the safe management of the flow of gas through the network. It is not intended that the requirements of Schedule 1 to these regulations should duplicate those required by the Pipelines Safety Regulations 1996 (PSR). PSR covers all pipelines conveying hazardous fluids, including gas pipes, and is intended to address the integrity of pipelines by ensuring their safe design, construction, installation, operation, maintenance and abandonment.

181 However, there are some areas of unavoidable overlap between these two sets of regulations – which we have sought to keep to an absolute minimum – in particular, duties dealing with management systems, operation of pipelines and response to emergencies. Although PSR covers management systems (eg in the context of the requirement for a major accident prevention document), such systems are concerned solely with pipeline integrity and the consequences of its loss.

182 The safe operation duties in PSR relate to the drawing up of safe operating parameters which reflect pipeline design, and ensuring that pipelines are operated and controlled within these limits.

183 The requirement in PSR to make suitable arrangements for emergencies is to ensure that these are in place to limit any loss of containment and to deal specifically with major accident hazards. GSMR, on the other hand, requires an effective emergency response service to be in place to deal with reports of gas escapes, either from the network or from gas fittings in consumers' premises. The arrangements under GSMR should focus on local and domestic situations, although incident investigation should deal with all leaks which caused, or gave rise to, a significant risk of fire or explosion.

184 To minimise duplication, those parts of any documents which are required under PSR and are relevant to the duties under GSMR may be referred to in the GSMR safety case.

Schedule 1 Particulars to be included in safety case of a person conveying gas

Regulation 3(1)

Schedule 1

General

- 1 Name and address of the person preparing the safety case (in this Schedule referred to as "the duty holder").
- 2 A description of the operation intended to be undertaken by the duty holder.
- 3 A general description of the plant and premises the duty holder intends to use in connection with the operation including, in particular, the geographical location where any pipes he uses join pipes used by other persons for conveying gas.

Guidance 1

185 The particulars required by paragraphs 1–3 of Schedule 1 to these regulations are intended to provide the essential factual (or background) information about the transporter which HSE needs in order to properly assess the safety case. The information should be presented in a logical manner and, as far as possible, be self-supporting.

Description of the operation

186 The description of the operation should cover all operational characteristics which help to identify the risks associated with the management of the flow of gas and which provide a proper understanding of the organisational arrangements set out in the safety case. Where relevant, the description should include, for example, information about:

- (a) the purpose of the pipeline;
- (b) the total length of the different types of pipeline in that part of the network;
- (c) the volumes of gas likely to be conveyed through such pipelines;
- (d) the pressure at which the pipeline is designed to operate, eg high pressure (>7 barg);
- (e) an indication of the location of interruptible consumers and other very large-volume consumers; and
- (f) the capacity constraints of such pipelines.

It may be sufficient simply to provide a high-level summary with reference to the supporting documents.

187 The description should, where relevant and feasible, be supported by plans or diagrams which clearly delineate geographical boundaries. The location of safety-critical plant and equipment, terminal and storage facilities (on- and offshore) and interfaces with other pipeline and storage systems also need to be provided. Where such interfaces are identified, the name of the operator must be provided. The safety case should set out the arrangements established to ensure that the design and planning criteria are kept up to date, taking account of changes in the patterns of gas consumption, so that gas can continue to flow safely through the duty holder's pipes at all times.

Guidance

1

188 Where a duty holder anticipates adopting networks as part of its operation, then the process by which it will carry out due diligence on plant and premises prior to adoption should be demonstrated in the safety case.

189 The description needs to include details of the control centres established to ensure the safe flow of gas, their geographical location, and the boundaries of their area. The means of communication between such centres and the terminal and storage operators, other pipeline operators having interfaces with the gas transporter producing the safety case, the NEC, and the emergency reporting service provider, should be included.

190 Where provided, plans or diagrams should be drawn to a scale suitable for the easy identification of the key features of the undertaking that is associated with the safe management of gas flow.

Schedule

1

4 *Particulars of any –*

(a) *technical specifications;*

(b) *procedures or arrangements relating to operation and maintenance,*

which the duty holder intends to follow in connection with the operation he intends to undertake insofar as they affect the health and safety of persons.

Guidance

1

191 It will be sufficient for the safety case to refer to internal or recognised technical specifications or standards (eg BSI, CEN, ISO or industry publications such as IGEM recommendations) which the gas transporter intends to follow in relation to managing the safe flow of gas through their part of the network, rather than describe them in detail.

192 The safety case should also refer to how the duty holder will identify developments in recognised risk management techniques, such as functional safety or human factors, and how they will apply them where relevant.

193 Technical specifications or standards need to be restricted to those concerned with both the reliability of safety-critical plant and the management and control arrangements that duty holders have in place to discharge their duties under these regulations, including appropriate quality standards. Where appropriate, any technical specifications or standards relating to IT applications need to be cited. The safety case must include an adequate explanation of how these standards and specifications are implemented and complied with.

Operational and maintenance procedures

194 Operational and maintenance procedures should also be addressed. All that is required is a high-level description, and reference need only be made to existing written procedures that are not covered by more specific requirements elsewhere in this schedule. These may include, here or elsewhere:

- (a) management of the flow of gas through the duty holder's part of the network;
- (b) operation of the associated plant, to the extent that this may affect the safe flow of gas through the duty holder's pipelines;
- (c) management and oversight of maintenance cycles, especially for safety-critical plant;
- (d) maintenance of the flow of gas in the event of plant breakdown;

Guidance 1

- (e) how safety inspections and planned preventive maintenance (involving, for example, closing down parts of the network) may affect the flow of gas, and how continuity of supply will be secured;
- (f) details of how planned or unplanned maintenance activities will be communicated to others who may be affected by them;
- (g) how reported gas leaks (both upstream and downstream of the end user's emergency control valve) and reports of possible CO emission are dealt with;
- (h) management and operation of interfaces with other gas transporters;
- (i) audit arrangements;
- (j) liaison with enforcing authorities and emergency services; and
- (k) appointment, training and ongoing assessment of the competence of safety-critical staff, eg control room operators, system controllers.

Safety management**Schedule 1**

5 *A statement of the significant findings of the risk assessment he has made pursuant to regulation 3 of the Management of Health and Safety at Work Regulations 1992,^(a) and particulars of the arrangements he has made in accordance with regulation 4(1) thereof.*

(a) SI 1992/2051 [updated to MHSWR 1999 Regulation 3 by section 17 of the Interpretation Act 1978].

Guidance 1**Risk assessment**

195 The Management of Health and Safety at Work Regulations 1999 (MHSWR) requires employers and self-employed people to make a suitable and sufficient assessment of the risks to the health and safety of their employees and others, including the public, who may be affected by their undertakings. However, in the context of the safety case, the significant findings of the risk assessment and preventive measures should include only those that may affect the safe management of the flow of gas, and the provision of an emergency response service. The assessment should be reviewed whenever there is reason to suspect that it is no longer valid, or where there has been a significant change in the matters to which it relates. The particulars of the risk assessment, and the preventive measures required, should be included in the safety case regardless of whether the gas transporter employs fewer than five employees.

196 The risk assessment should identify foreseeable events and take into account such events identified under paragraph 3(a) of Schedule 2 to these regulations, which form part of the NEC's safety case. The assessment should include events that may affect many people simultaneously but occur infrequently (such as the loss of supply to domestic customers or a major leak on a transmission or distribution main). It will be important to identify such events, the risks they present, and the different circumstances in which they might occur.

197 Risk assessments should be reviewed periodically, modified as appropriate, and consequential amendments made to the safety case. The interval between reviews will depend on the nature of the hazards and the degree of risk that the change in operations is likely to produce. As a minimum, it will be necessary to conduct the reassessment as part of the three-year review of the safety case, as required under Regulation 4(3).

Guidance 1

Health and safety arrangements

198 The preventive and protective measures that need to be taken will depend on the results of the risk assessment under normal operations, operations during maintenance or planned changes from the norm (eg temporary reduction in pressure/capacity of the pipelines), and all foreseeable supply emergencies or other abnormal events.

199 The gas transporter’s safety case should indicate the form in which these detailed procedures and protective measures are documented, and the arrangements for making them available to managers, supervisors, other employees, safety representatives and safety committees.

Schedule 1

6 *Particulars to demonstrate that the management system of the duty holder is adequate to ensure that the relevant statutory provisions will (in respect of matters within his control) be complied with in relation to the operation he intends to undertake.*

Guidance 1

200 The term ‘management system’ means the organisation and arrangements established by the duty holder to manage their undertaking (see paragraph 22(b) of Schedule 1 to these regulations).

201 Each safety case should include particulars to demonstrate that the management system is capable of controlling safely the flow of gas in that part of the network. For example, the safety case should refer to the arrangements to manage any interfaces with other parts of the network, and to communicate with terminal and storage operators, and other users of the network, eg shippers and suppliers under normal, emergency or other abnormal circumstances. It is not necessary to address here those aspects of the operation which are required under paragraphs 12–20 of Schedule 1 to these regulations.

Monitoring of health and safety performance

202 Effective monitoring should be an integral part of the safety management system; health and safety performance should be monitored in the same way and with the same rigour as business performance. The safety case should describe the arrangements for monitoring progress towards the achievement of the health and safety objectives of the safe management of the flow of gas, and the provision of an effective emergency service. The system for internal monitoring, and for reporting and recording abnormal events, should be described in the safety case. This should include the means of feeding back lessons learned by others who may have been involved or affected by the duty holder’s operations; for example, those who use the duty holder’s part of the network (ie shippers and suppliers) or those connected to it (ie other gas transporters, and terminal and storage operators). Consideration should be given to the consequential updating of documentation and procedures, eg the network code, local operating procedures etc.

203 Monitoring should be carried out by suitable personnel at prescribed intervals, assisted (as necessary) by other competent people. Managers are responsible for monitoring compliance with those standards for which they are responsible.

HSE guidance

204 Guidance on effective management of health and safety is contained in two HSE publications, HSG65 *Managing for Health and Safety* (HSE, 2013) and HSG48 *Reducing Error and Influencing Behaviour* (HSE, 1999).

Schedule 1

7 *Particulars to demonstrate that the duty holder has established adequate arrangements for ensuring the competence of his employees in health and safety matters.*

Guidance 1**Competence and training**

205 The Health and Safety at Work etc Act 1974 (HSWA) and MHSWR require all employers to ensure that employees are competent to carry out their tasks safely. Competence means that employees have the necessary skills, experience, knowledge and personal qualities. Gas transporters will need to identify essential competence requirements, and ensure (through staff selection criteria and the provision of necessary information, instruction, training and supervision) that the demands of a task do not exceed an individual's ability to carry it out, such that they create risks to the health and safety of themselves or others.

206 Requirements for competence and the means of acquiring it (including, where appropriate, specifying standards of training or qualifications) will need to be determined in the light of suitable and sufficient risk assessment. Where a change in the nature of the work is proposed, competence requirements should be considered, along with the provision of refresher training, as necessary, on an ongoing basis.

207 The safety case needs to describe the general arrangements made by the gas transporter to ensure that employees are competent with regard to the safe management of the flow of gas and the provision of an effective emergency response service. This applies to all employees, regardless of whether they are involved in managerial, supervisory or operational tasks. Particular mention may need to be made of the arrangements for ensuring the competence of staff undertaking safety-critical tasks.

Schedule 1

8 *Particulars to demonstrate that the duty holder has established adequate arrangements for managing work carried out by persons who are not his employees on or in relation to plant or premises which he owns or controls.*

Guidance 1**Contractors**

208 The safety case needs to describe arrangements concerning the safe management of the flow of gas or the provision of an effective emergency response service when work is contracted out. Selection criteria, monitoring and the review of performance against agreed objectives must be described, along with the criteria for the termination of a contract on health and safety grounds. The arrangements will need to ensure that:

- (a) contractors have a management system in place which is both capable of meeting safety objectives and consistent with the duty holder's system;
- (b) the division of responsibility between the gas transporter and the contractor for specific aspects of safety management is clearly defined;
- (c) contractors draw up and follow safe systems of work which include the provision and use of suitable plant and equipment;
- (d) contractors' employees are sufficient in number, competent and trained to an appropriate standard; and
- (e) adequate supervision is provided where necessary (either by the contractor, or the duty holder).

Schedule 1

9 *Particulars to demonstrate that the duty holder has established adequate arrangements for passing information relevant to health and safety to persons within his undertaking.*

Guidance 1

209 Each safety case should describe the arrangements made by the duty holder to provide sufficient information for the safe management of the flow of gas on that part of the network, and for dealing with supply emergencies and gas escapes (including the escape or emission of CO from appliances). HSWA and MHSWR place duties on employers to provide their employees, contractors and others (eg the public) who may be affected by their undertakings with information sufficient to ensure their health and safety. MHSWR place a duty on every employee to inform their employer, or a fellow employee with specific responsibility for health and safety, of any serious and immediate danger, and of shortcomings in the employer's arrangements for safety. The safety case needs to describe the arrangements made by the gas transporter to ensure that such information (in so far as it relates to the safe management of the flow of gas or the provision of an emergency response service) is passed by employees to line managers (or to safety advisers or safety officers, as appropriate), and that action is taken on receipt of such information.

210 High standards of health and safety performance cannot be achieved without the positive and informed commitment of the workforce. Arrangements for consulting employees should be consistent with requirements under the Safety Representatives and Safety Committees Regulations 1977, or if employees are not represented under those regulations, the Health and Safety (Consultation with Employees) Regulations 1996.

211 The safety case should give details of systems, including IT systems, that are in place to enable the necessary flow of information to all employees (and others who need access to it) to maintain the safe management of the flow of gas or the provision of an effective emergency response service.

Schedule 1

10 *Particulars to demonstrate that the duty holder has established adequate arrangements for passing and receiving information relevant to health and safety to and from other persons who have duties under these Regulations.*

Guidance 1

212 Effective arrangements are also needed to ensure that information relevant to the safe management of the flow of gas or the provision of an effective emergency response service is exchanged in a timely manner between the duty holder and others who have duties under these regulations. 'Others' includes other gas transporters, shippers, suppliers, terminal and storage operators, producers, and the NEC. This exchange will enable duty holders to discharge their duties under the regulations. The safety case should also set out the arrangements for dealing with members of the public and consumers, including those with interruptible contracts, in the event of a supply emergency or gas escape from the network. Where it is more appropriate to set out the detail of specific information exchange arrangements under other paragraphs in Schedule 1, there is no need to do so here.

213 It is essential that those who have duties to co-operate with gas transporters are made aware of the relevant arrangements described in the safety case.

Schedule 1

11 *Particulars to demonstrate that the duty holder has established adequate arrangements for audit and the making of any necessary reports.*

Guidance**1****Audit**

214 Paragraph 11 of Schedule 1 requires gas transporters to include in their safety cases sufficient details to demonstrate that they have made adequate arrangements to audit those parts of the management system which deal with the safe management of the flow of gas and provision of an emergency response service. The terms 'audit' and 'management system' are defined in paragraph 22 of Schedule 1.

215 'Audit' is the structured process of collecting independent information and drawing up plans for corrective action. This independent audit process constitutes the final stage in the management control cycle, providing the necessary feedback that will enable the maintenance and improvement of health and safety performance. As with other aspects of the management system, performance standards for the audit and review process should be set, communicated to those who need to know, and monitored.

216 In order to provide the necessary independent perspective and maximise the benefits, the audit process must be carried out by external consultants or competent people from outside the line management chain (ie the chain that is responsible for the areas or activities being audited).

217 There may be particular value in conducting audits shortly after a significant change in management arrangements (perhaps after six months or so). An example could be a change in the parent company (where the gas transporter is a subsidiary company or operating unit) or where a material change has required a revised safety case to be submitted to and accepted by HSE.

218 Any changes to management arrangements resulting from the audit need to be reflected in the safety case and supporting documentation.

Co-operation**Schedule****1**

12 *Particulars of the arrangements the duty holder has established to enable him to comply with regulation 6 (co-operation) including (except where he is the network emergency co-ordinator or the emergency reporting service provider for the network) particulars of the arrangements he has established to ensure that any directions given to him by the network emergency co-ordinator or the emergency reporting service provider for the network are followed.*

Guidance**1**

219 Each safety case needs to set out the working arrangements and operational procedures the duty holder has made with those who have duties under Regulation 6(2); these include producers, other gas transporters, shippers, suppliers, terminal and storage operators, and the network emergency co-ordinator (NEC) or emergency reporting service provider. The arrangements should enable each party to comply with the regulations, addressing matters such as normal operating conditions, local and national supply emergencies, and procedures when gas escapes are reported close to the boundary with respective gas transporters (or their emergency service providers).

220 In addition, the safety case should include other matters not addressed elsewhere; for example, arrangements and conditions for gas transporters to interrupt the supply of certain consumers; arrangements by suppliers to ensure their consumers cease using gas when directed to do so by a gas transporter; and arrangements for developing new procedures, amending the network code and local operating procedures, co-ordinating training and conducting emergency exercises etc.

Gas escapes and investigations

Schedule

1

13 *Particulars of the arrangements –*

- (a) *the duty holder and any emergency service provider appointed by him have established to enable him or the provider, as the case may be, to comply with regulation 7(4) to (6);*
- (b) *the duty holder has established to appoint emergency service providers.*

Guidance

1

Liaison with an emergency reporting service provider

221 An emergency reporting service provider will provide a national emergency freephone telephone number (such as 0800 111 999) for use by the public, gas consumers and the emergency services in the event of an actual or suspected gas leak, emission of CO, or a fire or explosion where a gas escape is thought to be the cause. This service provider must be able to relay calls immediately to the emergency service provider for each area or network. To enable them to do so, gas transporters will need to have notified the emergency reporting service provider for their network of:

- (a) the parts of the network they cover; and
- (b) details of the emergency service provider(s) for each part.

222 Arrangements for providing this information, and for notifying the emergency reporting service provider immediately of any changes, should be described in the safety case.

223 The safety case should also describe the arrangements for:

- (a) recording notifications of emergencies received from the emergency reporting service provider and action taken in response to each one, including the time taken to make safe;
- (b) informing the emergency reporting service provider of any escape of gas occurring as a consequence of planned work, in case the escape is reported by members of the public in the vicinity; and
- (c) audit trails to ensure that there has been no delay in receiving/ forwarding notifications of emergencies and taking actions to deal with them.

Receiving direct emergency calls

224 Although an emergency reporting service provider will provide the national emergency freephone number, there may be occasions when consumers report emergencies directly to gas transporters or their emergency service provider. The safety case should, therefore, describe the arrangements to:

- (a) notify the emergency reporting service provider of all emergency calls received directly, including where the duty holder has appointed a third-party emergency service provider; and
- (b) ensure that action is taken to respond to the emergency (if it is the responsibility of the duty holder) without waiting for directions to do so from the emergency reporting service provider.

Guidance

1

Dealing with reported gas escapes

225 The safety case needs to include details of the procedures and arrangements to be followed to ensure that emergencies are dealt with promptly and effectively. Those details should include the following:

- (a) arrangements for ensuring an adequate 24-hour response to reports of gas escapes;
- (b) procedures for determining the source of the gas escape or CO emission;
- (c) how gas escapes will be dealt with:
 - (i) upstream of the service pipe, including arrangements for liaison and working with other gas transporters where gas escapes are near boundaries on the network; and
 - (ii) downstream of the service pipe (ie gas fittings and installation pipework).

226 Arrangements for dealing with all foreseeable types of gas escape identified by the risk assessment should be described in the safety case. The action required will vary according to the scale of the gas escape, the geographical area affected and the duration of the incident. In describing the arrangements, the following factors should be taken into account:

- (a) procedures for controlling, directing and monitoring the situation from initial response to reinstatement of normal services. This may include the establishment of an incident control centre;
- (b) arrangements for minimising the need to discontinue supply to consumers;
- (c) competence, skills and experience of all operatives, in particular those of contractors;
- (d) training of operatives to deal with major gas escapes, eg those affecting several streets, escapes at night etc;
- (e) availability of sufficient numbers of operatives, with appropriate rights-of-entry powers, when needed;
- (f) procedures for ensuring effective communication with affected consumers;
- (g) where necessary, arrangements for discontinuing and reinstating supplies to consumers' premises. These arrangements will need to include procedures for ensuring systematic coverage of all premises in the affected area and checks on all appliances for obvious visible signs of spillage of the products of combustion when appliances are relit;
- (h) liaison with other gas transporters / emergency service providers in the event of gas escapes close to boundaries between different parts of the network;
- (i) arrangements for liaison / co-operation with the local fire and other emergency services, in particular where there has been a fire in premises to which gas is supplied, or there is a major leak from a local distribution main; and
- (j) arrangements for liaising with gas suppliers about the needs of their vulnerable consumers, and with local authorities and care organisations in the affected area for providing emergency shelter etc in the event that premises need to be evacuated.

Guidance

1

Reports of suspected escapes of CO from appliances

227 The safety case will need to describe the arrangements for dealing with reports of suspected escapes of CO. These will include procedures for identifying, where possible, the source of the escape or emission of CO and the steps to be taken to make safe, including disconnection procedures where appropriate. It is recognised that unsafe appliances which are spilling the products of combustion may not do so under all atmospheric conditions. The safety case should describe the procedures for identifying whether an appliance is spilling the products of combustion, as well as the arrangements for passing information to the relevant supplier where an escape of CO has resulted in a death or major injury notifiable under RIDDOR. The arrangements should include, for example, procedures for establishing and maintaining an up-to-date list of supplier contacts, and for recording information passed to them.

228 Where a gas transporter or emergency service provider identifies a dangerous appliance while attending a gas escape or relighting appliances following the reinstatement of supply to the premises, they should offer to disconnect the appliance, but they have no legal power to do so under these regulations if the occupant refuses. However, the gas transporter (or emergency service provider) has powers of entry to premises to deal with dangerous appliances. In such circumstances where the consumer does not agree to the voluntary disconnection of the dangerous appliance, it would be appropriate to exercise the rights of entry to disconnect the appliance from the installation pipework. The gas transporter should make a report on the dangerous appliance to HSE where required under Regulation 11(2) of RIDDOR and ensure the appliance is suitably labelled as being unsafe.

Appointment of an emergency service provider

229 Duty holders may choose to appoint an emergency service provider to act on their behalf to deal with reported gas leaks or emission of CO. The safety case will need to outline the arrangements for ensuring that the emergency service provider has operatives with the necessary skills, competence and hardware so that duty holders can demonstrate how their duties will be discharged under these regulations. It should also describe how sufficient numbers of operators with rights-of-entry powers will be provided. Details of how the emergency service provider will discharge their responsibilities under these regulations (essentially covering the same information required under paragraphs 215–220) will also need to be included.

Schedule

1

14 Particulars to demonstrate that the duty holder has established adequate arrangements to enable him to comply with paragraphs (12), (13), (15) and (16) of regulation 7, for co-ordinating the investigations he causes to be carried out pursuant to that regulation with other investigations carried out pursuant thereto, and for participating in such other investigations.

Guidance

1

230 The safety case should set out how the gas transporter will investigate fire and explosion incidents which occur downstream of the emergency control as a result of an escape of gas, and those which occur upstream which have, or could have, resulted in a fire or explosion. Arrangements should be made to ensure that those who conduct the investigation, whether the gas transporter’s own employees or those of a contractor, have the necessary skills, competence and experience to do so to a satisfactory standard.

231 The safety case needs to describe how the factual information, conclusions reached about the cause of the incident, and recommendations for any remedial

Guidance**1**

action which may be appropriate will be recorded. The arrangements for ensuring that such remedial action has been carried out should also be described, along with the dissemination of any lessons learned from the investigation.

232 The safety case should state how a report of the investigation will be submitted to HSE.

233 If emissions of CO have led to a death or injury notifiable to HSE under Regulation 11(1) of RIDDOR, the safety case should state how gas suppliers will be notified and how all the necessary information will be provided to enable the supplier to conduct an investigation into the incident (see guidance under Regulation 7(14) of these regulations).

Content and other characteristics of gas**Schedule****1**

15 *Particulars to demonstrate that the duty holder has established adequate arrangements to ensure that all gas he conveys complies with regulation 8.*

Guidance**1**

234 The safety case should include particulars to demonstrate that the duty holder has systems in place which ensure that only gas permitted under Regulation 8 will be conveyed through their pipes. In practice the duty holder will establish a series of contracts and protocols with others relating to the conveyance of gas on their part of the network. To some extent, gas transporters will be dependent on others fulfilling their obligations under these contracts and protocols, eg the Uniform Network Code (UNC), network entry agreements, own network codes etc. These relationships and the arrangements for managing the interfaces should be described. Part I of Schedule 3 sets out the content and characteristics of gas which may be conveyed under normal operating conditions.

235 The safety case should describe how the duty holder will carry out the necessary tests to demonstrate conformity with Part I (and Part II where appropriate) of Schedule 3. The geographical location of all testing facilities should be included, together with the reasoning for particular locations being chosen. This is particularly important in respect of tests for pressure at the extremities of the duty holder's part of the network. The safety case may take account of any documentary evidence provided by other gas transporters (who have transported gas to the duty holder's part of the network) that the composition of gas conforms to the statutory requirements.

236 Where a blending service for gas which does not conform to the requirements of Part I of Schedule 3 is provided by a gas transporter, the safety case needs to describe the arrangements for blending, together with the safeguards which are in place to prevent such out-of-specification gas from being consumed on the network. It should also describe how the transporter plans to convey out-of-specification gas from a gas processing facility to another place where the gas will be treated to bring it into conformity with the requirements of Part I of Schedule 3.

237 Where appropriate, when gas conforming to Part II of Schedule 3 is allowed to be conveyed through the network to prevent a supply emergency or to minimise the impact of one, the safety case should explain how the duty holder will co-operate with the NEC and other gas transporters. In particular, the arrangements made with producers, terminal operators and shippers or other gas transporters for obtaining such gas should be described, along with the details of any tests to be undertaken.

238 The safety case should describe how the transporter will provide sufficient pressure at the end of the service pipe to ensure that gas appliances (any of which

Guidance 1

consumers may reasonably be expected to use) operate safely wherever the premises are situated on the network. The description should include any pressure management techniques used to deal with the expected variations in consumption between peak and normal demands throughout the year.

239 Where consumers use equipment which is liable to produce a pressure of less than one atmosphere, or might inject extraneous gases (including air) into the duty holder's part of the network, the safety case should set out the arrangements to prevent this from happening, eg via the network code. This may include having to inform consumers that such equipment should be fitted with antifucltuators or non-return valves.

Continuity of supply

Schedule 1

16 *Particulars to demonstrate that the duty holder has established adequate arrangements to minimise the risk of a supply emergency.*

Guidance 1

240 To maintain safe flow, and to minimise the risk of a supply emergency, gas must be supplied to, and maintained in, the network in sufficient quantity to allow it to be pumped and routed through the network so it is delivered at the point of supply at an adequate pressure. Failure to do this may result in a drop of pressure or a loss of supply, which could put consumers at risk. For this reason, ensuring continuity of supply lies at the heart of safe gas flow management; how continuity of supply is maintained is fundamental to the acceptance of the safety case.

241 In practice, the duty holder will need to establish a series of contractual arrangements and operational procedures with others to ensure continuity of supply, including security of supply criteria, and for co-operating with the NEC to allow gas conforming to Part II of Schedule 3 into the network. The safety case should describe how the security of supply criteria will be met; for example, by ensuring sufficient gas is held in store to meet the 1-in-50-years winter. It should also describe the procedures for monitoring changes in the gas supply market to ensure that the duty holder can continue to meet the cold winter criterion.

242 For public gas transporters (PGTs) licensed under the Gas Act 1986, these arrangements will be described in their network code and other supporting documents, eg local operating procedures and network entry and exit agreements etc. The safety case should identify these relationships, and describe the procedures for managing the interfaces and modifying these documents. The safety case should also describe the interfaces between PGTs and other gas transporters who are exempt from the need to hold a PGT licence.

243 The safety case should also describe the arrangements for ensuring that no changes to the network code etc, which might give rise to a material change to the safety case, can be brought into effect until a revised safety case has been submitted to, and accepted by, HSE. It will be important to consider whether a series of smaller changes to the network code might cumulatively give rise to a material change, requiring resubmission of the safety case.

244 The duty holder should describe how they will maintain a sufficient gas supply to consumers on the part of the network which is the subject of their safety case. This should include the arrangements for the effective planning, organisation, control and monitoring of the management of gas flow; for example, procedures for:

- (a) forecasting long-term, medium-term, daily and within-day demand;
- (b) ensuring that demand forecast is met, obtaining gas of a suitable composition from contracts with producers, the spot market, other gas

Guidance 1

transporters, storage operators etc, including, where appropriate, arrangements for blending;

- (c) monitoring the gas flow to identify possible imbalances between supply and demand, including the arrangements for obtaining appropriate information about the availability of gas supplies; and
- (d) adjusting the input of gas to maintain continuity of supply in order to prevent a supply emergency developing.

Schedule 1

17 *Particulars to demonstrate that the duty holder has established adequate arrangements to ensure that the gas he conveys will be at an adequate pressure when it leaves the part of the network used by him.*

Guidance 1

245 Where gas is provided to other gas transporters, the safety case should describe how the gas will be provided at the agreed pressures and volumes. Where this is not possible because of an emerging or actual supply emergency within the duty holder's part of the network, the safety case should set out the arrangements for notifying the NEC, gas transporters and other users (eg shippers and suppliers) who may be affected, and the action the duty holder proposes to take to rectify the situation in so far as that is possible.

246 The safety case should describe arrangements for monitoring pressure at, or in the vicinity of, any pipeline interconnection.

Supply emergencies

Schedule 1

18 *Particulars to demonstrate that the duty holder has established adequate arrangements for dealing with supply emergencies or other incidents which could endanger persons.*

Guidance 1

247 The risk assessment carried out under paragraph 4 of Schedule 1 is likely to have identified a number of circumstances where the safe flow of gas in the duty holder's network is threatened. These foreseeable events might include, for example, failure of a major high-pressure pipe, failure of safety-critical equipment, an unexpected change in weather conditions, or over-pressure in a distribution system. Other foreseeable events (eg operational problems offshore or at a beach terminal) which might impact on part of the network covered by the safety case will have been identified in the NEC's safety case. The measures necessary for dealing with such events should be included in the duty holder's safety case.

248 As a first step, a clear definition of what constitutes a supply emergency needs to be established and described. Emergencies tend to fall into two types. First there are those where there is insufficient gas in a part, or parts, of the network, and no constraint on the ability to move gas into the affected area (if it is available). Such circumstances are likely to give rise to network emergencies and the NEC would have responsibility for co-ordinating the actions of gas transporters, and terminal and storage operators etc (see paragraph 3(b) of Schedule 2 to these regulations). The second type of emergency, which would not involve the NEC, is where sufficient gas is available within the network as a whole but a constraint means that it is not physically possible to move gas into the area where a supply emergency is developing. Such circumstances give rise to local emergencies and management of the situation rests with those gas transporters immediately affected.

Guidance 1

Local supply emergencies

249 The safety case should set out the criteria for declaring a potential local supply emergency on the duty holder’s part of the network, and identify other parts of the network and the relevant gas transporters who might be affected. In those circumstances where other gas transporters are likely to be affected, the safety case should set out the liaison arrangements and protocols established for managing the emergency.

250 The arrangements and protocols should describe the means by which any necessary reduction in gas consumption will be achieved, including procedures for liaising with shippers and suppliers, and for communicating and dealing with consumers. Details of how these arrangements and any relevant information are kept up to date should also be included.

251 The safety case should state how an emergency control centre will be set up to co-ordinate activities during an emergency, including (for example) details of the communications and computer equipment required, and the means of ensuring sufficient numbers of competent personnel are available to deal effectively with the emergency at any given time. Details of the command structure which will operate, and the roles and responsibilities of key personnel, should be included. The liaison arrangements with suppliers about the needs of vulnerable consumers, the local emergency services and affected local authorities should also be described.

National supply emergency

252 The safety case should describe the arrangements for communicating with the NEC, for responding to their directions, and for confirming that action has been taken. If any additional procedures to those set out above are required to adequately manage a network emergency, these should also be included.

Other incidents

253 The risk assessment will have identified those events which might threaten the safe flow of gas in the duty holder’s part of the network. These might include, for example, the possible incorrect connection of pipes operating at different pressures; a reduction in pressure in a distribution main because an appropriate antiflucluator was not fitted; or the inadvertent injection into the network of gas not conforming to Regulation 8(1). The safety case should outline the preventive steps in place to minimise the risk of these events happening, but where these preventive measures fail, the procedures necessary to make the situation safe and to restore supply should be described, unless they are covered elsewhere in the safety case.

254 Particular attention should be paid to the arrangements for dealing with domestic consumers who might be affected.

Schedule 1

19 *Where the duty holder is the only person conveying gas in a network, particulars to demonstrate that he has established adequate arrangements to decide when and for how long gas not conforming with the requirements of regulation 8(1) should be conveyed in the network pursuant to regulation 8(4).*

Guidance 1

255 Where necessary to prevent a supply emergency, Regulation 8(4) permits the duty holder to introduce gas which conforms to Part II of Schedule 3. The safety case should set out the criteria for determining when this provision will be exercised and the operational arrangements for introducing and controlling the flow of gas conforming to Part II of Schedule 3.

Schedule**1**

20 *Without prejudice to paragraph 18 above, particulars of the procedures that the duty holder has established to discontinue safely supply to consumers, when it is known there is insufficient gas to satisfy demand.*

Guidance**1**

256 The safety case should describe the criteria for determining the sequence in which the supply to consumers will be discontinued. The duty holder will need to take account of the risks to consumers associated with the loss of supply of gas (in particular, domestic and other priority consumers) and its subsequent reinstatement. This is likely to require a hierarchical approach to disconnection, which takes account of risks to different groups of consumers and any priority consumer criteria established by the government. As far as possible, the hierarchy should be based on objective engineering principles and aimed at reducing to a minimum the safety risks arising from a supply emergency across the affected parts of the network. In practice, the duty holder and other gas transporters will probably need to adopt a common approach across the network. The details of this should be recorded in gas transporters' safety cases, and in that of the NEC.

257 Where other gas transporters may be affected by a local emergency situation, the arrangements for co-ordinating action to discontinue supply safely across the affected area should be set out in the safety case. These might include, for example, written protocols on the sequence for discontinuing supply to particular groups of consumers on different gas transporters' pipelines and, if appropriate, the control centre which will co-ordinate the emergency response (see also paragraphs 249–251).

258 The safety case should detail the procedures for ensuring that all consumers who have been directed to cease using gas do so safely. This might involve collecting information on, for example, lead time requirements and availability of alternative energy supplies, so the period of notice given is appropriate. In the case of shipper-nominated interruptible consumers and certain priority consumers, shippers will need to satisfy the duty holder that they have carried out the necessary checks on lead times etc. The particular arrangements for the safe disconnection of domestic consumers should be set down in the safety case, including how instructions will be communicated, visits to properties where appropriate, and special arrangements for vulnerable consumers. Procedures for liaising with local emergency services and affected local authorities should also be described.

259 The safety case should include details of how gas transporters will make clear to consumers, particularly large-volume consumers, their obligations to conform with any direction to cease using gas, and how they will co-operate with shippers and suppliers to underpin these arrangements. It should also contain the procedures for monitoring that consumers have responded to any directions given, and where they have not, the action the duty holder will take to ensure the safe management of gas flow, including compliance with the direction to stop using gas.

260 In a supply emergency (whether local or national), the safety case should describe how the level of reserve gas is determined to ensure that the duty holder's part of the network can be safely managed if all or part of it needs to shut down. Where reserve gas is, in effect, held by another gas transporter, the safety case should describe the arrangements between the two gas transporters to ensure that both parts of the network can be shut down safely.

Schedule 1

21 *Particulars of the procedures that the duty holder has established to restore safely the gas supply to consumers, following an interruption in supply.*

Guidance 1

261 The safety case should set out the criteria for declaring when a local supply emergency is over and the arrangements for ensuring continued co-operation between affected gas transporters. The safety case should describe how the supply will be reinstated safely following either a local or national emergency.

262 Arrangements for restoring supply should address procedures for repressurising those parts of the network that have been shut down, and the sequence in which supplies will be restored to consumers, taking into account priority consumer criteria and any consultation with relevant government departments at that time. Particular arrangements for the reinstatement of supply to domestic consumers should be described, including:

- (a) checking all appliances for obvious visible signs of spillage of the products of combustion;
- (b) the speed at which reinstatement can be carried out safely;
- (c) the availability of sufficient competent personnel; and
- (d) safe working procedures and the need to follow them, including record-keeping and potential fatigue of personnel.

263 The safety case should describe the conditions under which it may be appropriate for duty holders to implement consumer self-isolation and restoration (CSIR) procedures; and the controls they have in place to minimise the risks of adopting this approach. See <https://www.hse.gov.uk/gas/supply/supply-emergencies.htm>.

Interpretation

Schedule 1

22 *In this Schedule –*

- (a) *“audit” means systematic assessment of the adequacy of the management system to achieve the purpose referred to in paragraph 6 carried out by persons who are sufficiently independent of the system (but who may be employed by the duty holder) to ensure that such assessment is objective;*
- (b) *“management system” means the organisation and arrangements established by the duty holder for managing his undertaking;*
- (c) *any reference to an operation intended to be undertaken by the duty holder is a reference to his intended operation of conveying gas in a network.*

Guidance 1

264 Paragraph 22(a) and (b) of Schedule 1 defines the terms ‘audit’ and ‘management system’. ‘Management system’ appears in paragraph 6 of Schedule 1 and in the definition of ‘audit’. ‘Audit’ appears in paragraph 11 of Schedule 1.

265 Paragraph 22(c) of Schedule 1 makes clear that a safety case has to address all the matters listed in Schedules 1–3 in respect of the safe management of the flow of gas.

Schedule 2 Particulars to be included in safety case of a network emergency co-ordinator

Regulation 3(2)

Schedule 2

1 Name and address of the person preparing the safety case (in this Schedule referred to as "the duty holder").

2 A general description of the network to which the safety case relates, including the geographical location of where pipes used by different persons conveying gas in the network join.

Guidance 2

266 The description of the network should cover only those characteristics which impinge on the safe management of gas flow. The aim is to provide sufficient background information about the structure of the network to enable HSE to properly assess the NEC's safety case. This information should be presented in a logical manner and, as far as possible, be self-supporting. Sufficient information, including where appropriate suitable plans or diagrams to show the length of various types of pipeline and the location of safety-critical plant and equipment on the network, should be provided. This might include, for example, particulars of the interfaces between pipeline systems of different gas transporters, and the location of terminal and storage facilities, control centres and the geographical areas covered by them. The names of relevant operators should also be included.

267 A general description of the operation of the network, sufficient to provide a proper understanding of the organisational arrangements for ensuring the overall safe management of the flow of gas in an actual or emerging supply emergency, should be provided. The information given should describe, in particular, the volumes of gas likely to be conveyed; the pressure and capacity constraints that exist; the circumstances where gas not conforming to the requirements of Regulation 8(1) will be allowed in the network; the options available for rerouting gas through the network; and the means of communicating with, and collecting information from, each gas transporter on the network.

Schedule 2

3 Particulars to demonstrate that the duty holder has established adequate arrangements for co-ordinating the actions to be taken to prevent a supply emergency including –

(a) particulars to demonstrate that the duty holder has established adequate arrangements to monitor gas flow within the network in order to identify a forthcoming supply emergency;

Guidance 2

268 The risk assessment carried out under paragraph 4 of Schedule 1 is likely to have identified a number of circumstances which could threaten the safe flow of gas in the network. These foreseeable events might include, for example, the threat of widespread industrial action, a significant failure in gas supply, catastrophic failure of a high-pressure pipeline or a prolonged period of exceptionally cold weather. The measures necessary for dealing with such events form the basis of the information which should be included in the safety case.

269 As a first step, a clear definition of what constitutes a supply emergency needs to be established and described in the safety case. Supply emergencies tend to be of two types. First, there are those where there is sufficient gas available in the network, but a constraint on the network means that it is not physically possible to move the gas into the area where the emergency is developing. Such circumstances generally give rise to local emergencies, the management of which

Guidance

2

rests with those gas transporters immediately affected (see paragraph 18 of Schedule 1). The second type of emergency, which will normally involve the NEC, is where there is insufficient gas to meet demand in a significant part of the network, and where there are not necessarily any physical constraints to prevent movement of the gas into the affected area, if it is, or could be made, available.

270 In periods of exceptionally cold weather, a network emergency may arise because the security of supply criteria are exceeded on any day or over a prolonged period. The safety case should set out the basis of the security of supply criteria.

271 In a network emergency the NEC would be responsible for co-ordinating actions across the affected parts of the network to minimise the possibility of a supply emergency developing; and where one develops, for minimising the safety consequences. This may mean giving directions to gas transporters about rerouting, reducing consumption on specific parts of the network, or for specific groups of consumers to cease using gas, and for ensuring that gas transporters have followed these directions. An example of a network supply emergency would be where a significant part of the network, such as two or more local distribution zones (within the meaning of the Uniform Network Code) and any associated third-party systems within these zones, were potentially or actually experiencing a supply emergency.

272 The safety case should provide details of the criteria to be used in each of the foreseeable events identified by the duty holder's risk assessment for declaring a network supply emergency. These details should take into account the particular circumstances which might exist at any one time. This might include identification of the point, or points, at which the duty holder might need to exercise their override of control across all, or part of, the network. Procedures for dealing with any further deterioration of the supply/demand imbalance will need to be described, particularly in respect of the decision to authorise the introduction of gas conforming to Part II of Schedule 3 into the network.

273 Effective monitoring of gas flow within the network will form an integral part of the duty holder's responsibilities. This will enable the NEC to take action to prevent, as far as possible, a supply emergency developing, and where it cannot be prevented, to take timely decisions in order to minimise the safety consequences. The safety case should set out the arrangements the duty holder has established for dealing with these circumstances. This will include, but not be limited to, the arrangements for obtaining sufficient relevant, timely and accurate information about the status of the supply, and the demand across the network. This might include information about, for example:

- (a) the potential amount of gas which could be made available, including gas complying with Part II of Schedule 3;
- (b) demand levels, location and status of large consumers;
- (c) where gas is being put in and taken out of the network, pressure/capacity constraints and gas composition;
- (d) consumption against anticipated demand during the day (eg due to adverse weather) and adjustments to planned input and associated lead times and actual performance;
- (e) problems experienced by gas transporters, terminal and storage operators, and gas producers which could affect the delivery of gas flow commitments, eg plant failure, 'software' failures (computers, telecommunications); and
- (f) routing/capacity constraints, eg planned maintenance.

Guidance 2

274 The safety case should describe the contingency arrangements which would come into operation in the event of a communication or monitoring equipment failure.

Schedule 2

(b) in cases where it is not possible to obtain sufficient gas, particulars of the procedures and arrangements that the duty holder has established to direct persons conveying gas to secure a reduction in consumption and to verify that such directions have been followed;

Guidance 2

275 The particulars to be included in the safety case should cover both the means by which the supply emergency will be co-ordinated, and the procedures for securing any necessary reduction in gas consumption. The safety case should also set down the arrangements for informing all those with duties under these regulations of their roles and responsibilities in a supply emergency.

276 These may need to include, for example, arrangements for operating an incident room, setting up and maintaining communications links with gas transporters, terminal and storage operators, shippers etc and ensuring the availability of sufficient competent personnel to manage the process effectively.

277 Details of the methods used for determining the allocation of available gas to gas transporters should be set down, including, for example, the demand profile, actual consumption and ability of each part of the network to cut back consumption. The duty holder will need to take account of the risks to consumers, in particular domestic and other priority consumers, associated with the loss of supply of gas and subsequent reinstatement. This is likely to require a hierarchical approach to disconnection, which should take account of risks to different groups of consumers and any priority consumer criteria established by the government. As far as possible, the hierarchy should be based on objective engineering principles aimed at reducing to a minimum the safety risks arising from a supply emergency across the affected parts of the network. In practice, the duty holder and the gas transporters concerned will probably need to adopt a common approach across the network. The details of this should be recorded in gas transporters' safety cases, and in that of the NEC.

278 The arrangements should also include details of the procedures for directing gas transporters to reduce consumption, the speed at which this should be achieved, and arrangements for individual gas transporters to confirm that action has been taken.

Schedule 2

(c) particulars of the procedures that the duty holder has established to monitor the situation throughout a supply emergency, and details of the procedures established to restore safely the gas supply to consumers, once the emergency is over;

Guidance 2

279 The safety case should describe the procedures established to monitor the status of gas flow and supply/demand across the network throughout a network supply emergency (see paragraph 273). The information collected as part of the monitoring process will need to be adequate to allow decisions to be made about whether further reductions in consumption are required; how long the supply emergency is likely to last; and when the end of the emergency can be declared on all, or parts, of the network affected by it.

280 To assist in the decision-making process, criteria should be developed for declaring an end to a supply emergency, and for bringing each affected part of the network back on stream. This may include considering the sequence in which supply should be reinstated to consumers, taking into account the circumstances of the emergency; the time of year; the ability of each gas transporter to effect

Guidance **2**

reinstatement; and any consultations with relevant government departments at that time. Included in the safety case should be details of the arrangements for ensuring that gas transporters, shippers, terminal and storage operators etc are kept informed of the status of the emergency, and the action required of them.

281 There will also be a need to review the co-ordination and handling of a network supply emergency at the end of each emergency. This should be completed as soon as possible. The objective should be to identify the difficulties encountered, their causes, and where appropriate, for revised arrangements to be put in place. The review should examine detailed operational arrangements as well as the quality of the decision-making process. It will be necessary to ensure that lessons learned and revised arrangements are communicated to all those concerned. Where appropriate, amendments to the safety case should be made and if these constitute a material change, the duty holder's safety case should be resubmitted to HSE. There may also be a need for relevant gas transporters to resubmit their safety cases to HSE for acceptance.

Schedule **2**

(d) particulars to demonstrate that the duty holder has established adequate arrangements to decide when and for how long gas not conforming with the requirements of regulation 8(1) should be conveyed in the network pursuant to regulation 8(2);

Guidance **2**

282 Regulation 8(2) permits the duty holder to allow the introduction of gas which conforms to Part II of Schedule 3 where this is necessary to prevent a supply emergency. This provision exists because there may be circumstances in which the introduction of out-of-specification gas into the network is preferable in safety terms to the loss of supply, in particular to domestic and other small-volume consumers. The safety case should set out the criteria for determining when this provision will be used, and the operational arrangements which have been established with gas transporters, probably through their respective network codes and associated operational protocols, for introducing and controlling the flow of gas conforming to Part II of Schedule 3 across the network.

Schedule **2**

(e) particulars to demonstrate that the duty holder has established adequate arrangements for rehearsing and testing the actions to be taken in the case of a supply emergency;

Guidance **2**

283 The safety case should describe the arrangements for organising exercises to rehearse and test the actions which need to be taken in the event of a national supply emergency. The range of exercises carried out should be wide, including periodic full-scale exercises and more frequent testing of key components, eg communication with gas transporters. Exercises should be designed to involve the duty holder and other users of the network.

284 The safety case should also document the arrangements made to inform HSE, in advance, of planned major exercises. This is so that HSE representatives can, where appropriate, arrange to observe.

285 Each exercise should be systematically reviewed by all those who participated in or were affected by it. Results of the review, including any necessary changes to procedures, should be communicated to gas transporters and others, as appropriate. Safety cases should be updated, where necessary, and if appropriate, resubmitted to HSE.

Schedule **2**

(f) a general description of the plant and premises the duty holder intends to use in connection with the arrangements and procedures described in his safety case pursuant to this paragraph.

Guidance 2

286 A brief description of the facilities, plant and equipment used by the duty holder to discharge their duties should be given in the safety case. The information should be sufficient to support the arrangements and procedures set out in the safety case. This might include, for example, details of the communication and computer systems used; the facilities available to the duty holder to monitor gas flows etc; and the effective co-ordination of gas flow into and through the network. Particular attention should be paid to the arrangements made for back-up systems to come into play in the event of, for example, a computer or communications failure.

Schedule 2

4 *The same particulars as are referred to in paragraphs 4 to 11 of Schedule 1 as if any reference in paragraphs 4 and 6 thereof to the operation intended to be undertaken were a reference to the network emergency co-ordinator's functions under the arrangements and procedures described in his safety case.*

Guidance 2

287 The safety case should also include details of the arrangements made to comply with the requirements of paragraphs 4–11 of Schedule 1 as they apply to the NEC.

Schedule 2A Emergency reporting service provider: safety case

Regulation 3(3)

Schedule 2A

Particulars to be included in safety case of an emergency reporting service provider.

1. *Name and address of the person preparing the safety case (referred to in this Schedule as "the duty holder").*
2. *A general description of any network to which the safety case relates, including the boundary of the network.*
3. *A general description of the plant and premises the duty holder intends to use in connection with the arrangements and procedures described in the duty holder's safety case pursuant to this Schedule.*

Guidance 2A

288 As in Schedule 1 and Schedule 2, the duty holder's details need to be established at the beginning of the safety case document.

289 The emergency reporting service provider must clearly identify the network they are responsible for, including where this is multiple networks. The aim is to provide sufficient background information about the structure of the network to enable HSE to properly assess the emergency reporting service provider's safety case. This information should be presented in a logical manner and, as far as possible, be self-supporting. Sufficient information should be provided, including where appropriate, suitable plans or diagrams to show the network boundaries. This might include, for example, particulars of the interfaces between pipeline systems of different gas transporters; the location of terminal and storage facilities; and the location of control centres and the geographical areas covered by them. The names of relevant operators should also be included along with the means of communication with such operators.

290 The safety case's description of the plant and premises should include the number of premises being used, addresses, building names, and details of estate management arrangements with contact details. The description should also

Guidance 2A

include the same details of any plant or premises used for business continuity or disaster recovery purposes.

291 A brief description should be given in the safety case of the facilities, plant and equipment used by the duty holder to discharge their duties. The information should be sufficient to support the arrangements and procedures set out in the safety case. For example, this might include the facilities or systems available to the duty holder to receive and log calls, and then inform the appropriate emergency service provider of gas escapes and incidents. Particular attention should be paid to the arrangements made for back-up systems in the event of, for example, an IT or communications failure.

Schedule 2A

4. *Where the duty holder intends to provide any service under paragraph (1)(b) of regulation 7, particulars of the communication methods to be used by the duty holder.*

Guidance 2A

292 If the duty holder is providing alternative means of reporting gas escapes and incidents, then the safety case needs to include a description of the method of communication and a brief description of how the alternative means of communication will be continuously operated and how the service standards, competency of persons, advice provided by persons, and the business continuity and disaster recovery processes will be the same, or of a similar standard, to those provided by the telephone service.

Schedule 2A

5. – (1) *Particulars to demonstrate that the duty holder has established adequate arrangements to enable the duty holder to comply with the duties, and carry out all of the functions, of an emergency reporting service provider under regulation 7, including in particular –*

(a) *particulars to demonstrate that the duty holder has established adequate arrangements for ensuring that each relevant service is manned only by persons who are competent and have the necessary equipment and training to –*

(i) *establish the location of the person reporting the gas escape and, if different, the likely location of the escape,*

(ii) *determine whether the gas escape is controllable or uncontrollable,*

(iii) *if the gas escape is controllable, determine whether steps can be taken to control the escape and if so, advise the person reporting the escape how to do so, and confirm if it has been controlled, and*

(iv) *provide appropriate advice to the person reporting the gas escape on the steps that may be taken to minimise the risk of harm to themselves and others;*

Guidance 2A

293 The safety case should include a description of how the duty holder will comply with Regulation 7(1B) in being contactable within Great Britain by the use of one telephone number, especially when there are multiple emergency reporting service providers operating in parallel but responsible for different networks. It is expected that in situations where there are multiple emergency reporting service providers, that duty holders will need to communicate and co-operate with one another in order to comply with this regulation. Arrangements for ensuring that the telephone number is the same for each network will need to be set down in the safety case.

294 As this is a continuously operated telephone service, the arrangements that the duty holder makes to ensure that the service is adequately resourced and accessible to the public throughout Great Britain are very important. Where the

Guidance 2A

duty holder is providing alternative means of reporting a gas escape or incident, the same standards should apply to that alternative means as they do for the telephone service. The duty holder is expected to answer all calls to the service in a prompt manner, and ensure that call handlers have sufficient information and knowledge to be able to safely manage the situation, provide safety advice to the caller, and then determine what level of response is required, including the quick referral of emergencies to the appropriate emergency service provider or gas transporter. The same principles apply to any alternative means of communication provided by the duty holder.

295 Emergency reporting service provider telephone operators will need an outline script which will enable them to:

- (a) establish the precise location of the emergency;
- (b) establish whether the leak is controllable (ie on the end user's side of the emergency control adjacent to the meter) or uncontrollable (ie on the transporter's side);
- (c) advise callers on how to turn off the gas at the emergency control, and confirm that this has been done, except where the emergency control is in a cellar or other confined space where there is also a smell of gas, when the advice should be not to enter but to vacate the premises;
- (d) advise callers to open doors and windows to ventilate the property and warn them against operating any electrical appliances. They should also be advised not to smoke or have naked flames, and to avoid using anything that could be a possible source of ignition;
- (e) establish whether there are fumes (escape of CO into the room), and if it is possible to identify the appliance; and
- (f) where an escape of CO is suspected, advise callers of the immediate steps to be taken; namely to turn off all appliances which may be emitting CO and not to use them until they have been checked by the emergency service provider.

296 The safety case should describe how persons operating the service acquire competency, and how this is maintained and updated as necessary. The emergency reporting service provider and the relevant gas networks should also co-operate in the preparation and periodic review of the call-handling script to ensure it is fit for purpose.

297 The safety case should describe how persons operating the service are trained in order to achieve such competency, and given adequate tools to help them discharge their duties. This will need to include necessary hardware and software equipment. Ongoing assessment of whether such tools remain fit for purpose should also be demonstrated.

Schedule 2A

(b) particulars to demonstrate that the duty holder has established adequate arrangements for ensuring that the service required by regulation 7(1)(a), and any service provided under regulation 7(1)(b), is available throughout Great Britain and manned continuously, including –

- (i) arrangements for ensuring business continuity and disaster recovery capability, and*
- (ii) particulars to demonstrate that the duty holder has established adequate arrangements for testing and rehearsing those arrangements;*

Schedule 2A

(c) particulars to demonstrate that the duty holder has established adequate arrangements for ensuring that calls to the service required by regulation 7(1)(a) are answered, and any communications made through a service provided under regulation 7(1)(b) are responded to, in a timely manner;

(d) where the duty holder provides a service under regulation 7(1)(b), particulars of the procedures and arrangements that the duty holder has established for ensuring that a gas escape reported to it concerning a network for which it is not the emergency reporting service provider is, in accordance with paragraph (1C)(b) of regulation 7, reported to the correct emergency reporting service provider;

(e) particulars of the procedures and arrangements that the duty holder has established for ensuring that a gas escape is reported, in accordance with paragraph (2) of regulation 7, to the person conveying gas on the network who is responsible for preventing the gas escaping.

(2) In this paragraph “relevant service” means –

(a) the service required by regulation 7(1)(a),

(b) any service provided under regulation 7(1)(b), or

(c) a service provided for the purposes of regulation 7(3) or (8).

Guidance 2A

298 The duty holder should demonstrate that the necessary tools are available to ensure that calls or alternative means of communication may be received from any area in which the network they are responsible for is operating. Where there is a sole emergency reporting service provider, this should extend to the whole of Great Britain.

299 As the service must be continuously operated and remain accessible to the public, adequate business continuity and disaster recovery arrangements must be in place so that the service can continue to operate in such circumstances. The duty holder must demonstrate that the arrangements are robust; that persons operating the service are aware of such arrangements; that there is sufficient management oversight to ensure that they are used or authorised when required; that persons operating the service are informed of such use and where to report; and that procedures are in place to return to business-as-usual practices when it is appropriate to do so.

300 The safety case should describe the arrangements for organising exercises to rehearse and test the actions which need to be taken in the event of a business continuity disruption or a disaster situation affecting the operation of the service. The range of exercises carried out should be wide, including periodic full-scale exercises and more frequent testing of key components, eg communication with gas transporters. Exercises should be designed to involve the duty holder, persons operating the service, and other users of the network for which the service provider is responsible.

301 The safety case should also document the arrangements to inform HSE, in advance, of planned major exercises. This is so that HSE representatives can, where appropriate, arrange to observe.

302 Each exercise should be systematically reviewed by all those who participated in or were affected by it. Results of the review, including any necessary changes to procedures, should be communicated to gas transporters and others, as appropriate. Safety cases should be updated, where necessary, and if appropriate, resubmitted to HSE.

Guidance 2A

303 Another important part of the duty holder's responsibilities will be to answer emergency calls or respond to alternative means of communication in a timely manner. To demonstrate that this is the case, the duty holder should describe how sufficient human resource will be acquired and deployed, including minimal levels necessary to maintain a good service. The safety case should also describe the performance expectations of persons operating both the call-handling service and the alternative means of communication service, to demonstrate that timely answering of calls / alternative means of communication will be monitored and evaluated. The duty holder will also need to describe how mechanical or material resources will be used and how they will aid in the timely answering of calls or in the response to alternative means of communication.

304 The service must be able to deploy the relevant emergency service or gas transporter for the network to the scene of the incident once a call has been answered (or an alternative means of communication received) and responded to, and the situation has been assessed as requiring an emergency response. This is so that the person conveying gas in that part of the network may comply with their duties under Regulation 7(4), (5) and (6).

305 The safety case must describe the arrangements for deploying the relevant gas transporter or emergency service provider. This will include the means of communication; the level of information to be provided; how that information and onward referral are documented; and the arrangements in place to ensure that the referral is received and ownership of the incident is established with the relevant emergency service provider for that part of the network requiring an emergency response.

Schedule 2A

6. *Particulars to demonstrate that the duty holder has established adequate arrangements for passing and receiving information relevant to health and safety to and from other persons who have duties under these Regulations.*

7. *Particulars of the arrangements the duty holder has established to enable the duty holder to comply with regulation 6 (co-operation).*

Guidance 2A

306 To obtain compliance with Regulation 7(2) (reporting gas escapes) and with Regulation 6 (co-operation), the emergency reporting service provider will need to establish contemporaneous and correct means of communication with gas transporters, emergency service providers, other emergency reporting service providers, the NEC, and any other duty holder recognised under Regulation 6(2). The safety case should therefore demonstrate the working arrangements and operational procedures the duty holder has established with such persons in order to communicate with them, maintain such lines of communication, and how relevant health and safety information is shared and protected.

307 Effective and up-to-date record-keeping will be necessary, and the duty holder should include details of how such record-keeping will be undertaken, how records will be securely stored and made accessible, and how they will be reviewed to ensure that records remain up-to-date and correct.

Schedule 3 Content and other characteristics of gas

Regulation 8

Schedule 3
Part I

Part I Requirements under normal conditions

1. *The content and characteristics of the gas shall be in accordance with the values specified in the table below.*

Content or characteristic	Value
Hydrogen sulphide content	≤5mg/m ³ ;
Total sulphur content (including H ₂ S)	≤50mg/m ³ ;
Hydrogen content	≤0.1% (molar);
Oxygen content	≤1.0% (molar), where the gas is conveyed in a pipe operated at a pressure of ≤38 barg; and ≤0.2% (molar), where the gas is conveyed in a pipe operated at a pressure of >38 barg;
Impurities	Shall not contain solid or liquid material which may interfere with the integrity or operation of pipes or any gas appliance (within the meaning of regulation 2(1) of the 1998 Regulations) which a consumer could reasonably be expected to operate;
Hydrocarbon dewpoint and water dewpoint	Shall be at such levels that they do not interfere with the integrity or operation of pipes or any gas appliance (within the meaning of regulation 2(1) or the 1998 Regulations) which a consumer could reasonably be expected to operate;
RD	≤0.700;
WN	(i) ≤51.41 MJ/m ³ , and (ii) ≥46.50 MJ/m ³ ;

2. *The gas shall have been treated with a suitable stenching agent to ensure that it has a distinctive and characteristic odour which shall remain distinctive and characteristic when the gas is mixed with gas which has not been so treated, except that this paragraph shall not apply where the gas is at a pressure of above 7 barg.*

3. *The gas shall be at a suitable pressure to ensure the safe operation of any gas appliance (within the meaning of regulation 2(1) of the 1998 Regulations) which a consumer could reasonably be expected to operate.*

4. (1) *Expressions and abbreviations used in this Part shall have the meanings assigned to them in Part III of this Schedule.*

Schedule 3
Part II

Part II Requirements for gas conveyed to prevent a supply emergency

1 The requirements of the gas referred to in regulation 8(2) and (4) are –

- (a) WN –
 - (i) $\leq 52.85 \text{ MJ/m}^3$, and
 - (ii) $\geq 46.50 \text{ MJ/m}^3$; and
- (b) $RD \leq 0.700$;

and in all other respects the gas shall conform to the requirements specified in Part I of this Schedule, as if those requirements were repeated herein.

2 (1) Expressions and abbreviations used in this Part shall have the meanings assigned to them in Part III of this Schedule.

Schedule 3
Part III

Part III Interpretation

1 In this Schedule –

“bar” means bars (absolute);

“barg” means bars (gauge);

“C” means degrees Celsius;

“gross calorific value” means the gross calorific value, expressed in MJ/m^3 , of a dry gas determined on the basis that the water produced by combustion is assumed to be condensed;

“ mg/m^3 ” means milligrams per cubic metre, under the reference conditions;

“ MJ/m^3 ” means megajoules per cubic metre, under the reference conditions;

“relative density” means the ratio of VG to VA (expressed in the same units) where –

VG is the mass of a volume of the gas when containing no water vapour under the reference conditions; and

VA is the mass of the same volume of air containing no water vapour under those conditions;

“WN” means the Wobbe Number of the gas, which is calculated in accordance with the following formula –

$$WN = \text{Gross calorific value} \div \sqrt{(\text{Relative density})}$$

1A. In this Schedule, the reference conditions are 15C and 1.01325 bar.

Guidance 3

Guidance on determining whether gases fall within the criteria set out in Parts I and II of Schedule 3

308 The characteristics of a gas which can be accepted into the network under normal conditions (Part I of this schedule) and those which may be authorised by the NEC (Part II of this schedule) to prevent a supply emergency, have been informed by work carried out by Dutton and others (Dutton, 1984; Dutton and Gimzewski, 1983; Dutton and Souchard, 1985; Dutton and Wood, 1984) on gas interchangeability and by recent re-evaluation of this work in the light of changes to

Guidance

3

the characteristics of gas appliances now in use (Lander, 2019). The work was carried out against a background of declining gas supplies from the southern North Sea and replacement supplies being provided from an increasing number of other sources. It was necessary to ensure that these new gas supplies were interchangeable with existing supplies, and that established standards of appliance performance and safety could be maintained without the need to adjust appliances.

309 The following technique should be used to determine whether a particular gas composition complies with these regulations:

- (a) The Wobbe number and relative density are calculated by methods outlined in ISO 6976:2016: *Natural gas. Calculation of calorific values, density, relative density and Wobbe indices from composition* (ISO, 2016) at standard conditions of 15°C and 1.01325 bar.
- (b) Acceptable gas mixtures are those where the Wobbe number and relative density conform to the limits in Parts I or II of this schedule, depending on the circumstances (ie normal or emergency supply).

References

Dutton, B.C. (1984). A new dimension to gas interchangeability. *Communication 1246*, 50th Autumn Meeting at Eastbourne, Institution of Gas Engineers, 1984.

Dutton, B.C. and Gimzewski, E. (1983). Gas interchangeability: prediction of flame lift. *Journal of the Institute of Energy*, June 1983, p.107.

Dutton, B.C. and Souchard, R. J. (1985). Gas interchangeability: prediction of incomplete combustion. *Journal of the Institute of Energy*, December 1985, p.210.

Dutton, B.C. and Wood, S.W. (1984). Gas interchangeability: prediction of soot deposition on domestic gas appliances with aerated burners. *Journal of the Institute of Energy*, September 1984, p.381.

HSE (1999). HSG48 *Reducing error and influencing behaviour* (second edition). <https://www.hse.gov.uk/pubns/priced/hsg48.pdf>

HSE (2013). HSG65 *Managing for health and safety* (third edition). <https://www.hse.gov.uk/pubns/books/hsg65.htm>

HSE (2018). L56 *Gas Safety (Installation and Use) Regulations 1998 (GSIUR) as amended. Approved Code of Practice and guidance* (fifth edition). <https://www.hse.gov.uk/pubns/books/l56.htm>

HSE Energy Division (2017). Gas Safety Management Regulations 1996. Safety Case Assessment Manual. Guidance on the assessment and inspection of GSMR safety cases. Version 7.1, November 2017. <https://www.hse.gov.uk/gas/assets/docs/gsmrscam.pdf>

IGEM (2021). *Standards of training in gas work*. IGEM/IG/1 Edition 2, Communication 1839. <https://www.igem.org.uk/resource/igem-ig-1-ed-2-standards-of-training-in-gas-work.html>

ISO (2016). ISO 6976:2016 *Natural gas. Calculation of calorific values, density, relative density and Wobbe indices from composition*. <https://www.iso.org/standard/55842.html>

Lander, D. (2019). *Dutton revisited: An alternative approach to specifying UK natural gas interchangeability*. Dave Lander Consulting Ltd, Report DLC/0153, 2019.

Further information

For information about health and safety visit <https://books.hse.gov.uk> or <https://www.hse.gov.uk/>.

You can view HSE guidance online and order priced publications from the website. HSE priced publications are also available from bookshops.

To report inconsistencies or inaccuracies in this guidance email: commissioning@williamslea.com.

British Standards can be obtained in PDF or hard copy formats from BSI: <https://knowledge.bsigroup.com/> or by contacting BSI Customer Services for hard copies only. Tel: 0846 086 9001 Email: cservices@bsigroup.com.

The Stationery Office publications are available from The Stationery Office, PO Box 29, Norwich NR3 1GN Tel: 0333 202 5070 Fax: 0333 202 5080. E-mail: customer.services@tso.co.uk Website: <https://www.tso.co.uk>. They are also available from bookshops.

Statutory Instruments can be viewed free of charge at <https://www.legislation.gov.uk> where you can also search for changes to legislation.



A guide to the Gas Safety (Management) Regulations 1996 (as amended)

This publication provides advice, information and guidance for gas transporters, duty holders and other interested parties which should be followed to ensure compliance with the Gas Safety (Management) Regulations 1996 and the Gas Safety (Management) (Amendment) Regulations 2023.

In particular, it provides guidance on what constitutes a gas network, what information should be included within Gas Safety (Management) Regulations safety cases, the co-operation requirements that are necessary for duty holders to operate a gas network, and processes for the management of gas escapes, including emergency contact provision for the general public.

This third edition has been revised to incorporate the amendments made by SI 2023/284 The Gas Safety (Management) (Amendment) Regulations 2023 and SI 2023/320 The Gas Safety (Management) (Amendment) (No. 2) Regulations 2023.



www.tso.co.uk



<https://books.hse.gov.uk/>