EXPLANATORY MEMORANDUM TO

THE GAS SAFETY (MANAGEMENT) (AMENDMENT) REGULATIONS 2023

2023 No. 284

1. Introduction

1.1 This explanatory memorandum has been prepared by the Health and Safety Executive (HSE) on behalf of the Department for Work and Pensions and is laid before Parliament by Command of His Majesty.

2. Purpose of the instrument

2.1 This instrument amends the Gas Safety (Management) Regulations 1996[1] (GSMR 1996). It makes various changes to the requirements for the content and characteristics of gas that is permitted to be conveyed in gas networks in Great Britain. In particular, changes are made to enable the additional supply of gas to the gas network from the UK Continental Shelf and the continued use of greener gases such as biomethane.

2.2 This instrument also makes changes to the way in which the service for reporting gas leaks is provided. In future this service will be provided by duty holders with a specific safety case which has been approved by HSE. The definition of a gas 'network' in GSMR 1996 is updated and various co-operation duties are clarified. The instrument also makes other minor and consequential amendments to GSMR 1996.

3. Matters of special interest to Parliament

3.1 None.

4. Extent and Territorial Application

4.1 The extent of this instrument (that is, the jurisdiction(s) which the instrument forms part of the law of) is England, Scotland and Wales.

4.2 The territorial application of this instrument (that is, where the instrument produces a practical effect) is Great Britain.

5. European Convention on Human Rights

5.1 As the instrument is subject to negative resolution procedure and does not amend primary legislation, no statement is required.

6. Legislative Context

6.1 This instrument is one part of the commitment in the Energy White Paper[2] (Chapter 3: Energy system, 'The Role of Natural Gas', pg 84) to review gas quality standards to enable the widest range of gases to be used to decarbonise energy, but also responds to the current energy crisis by enabling gas of a lower calorific value to be conveyed in the British network.

[1] https://www.legislation.gov.uk/uksi/1996/551/contents/made

[2] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/945899/201216_BEIS_EWP_Command_Paper_Accessible.pdf

6.2 This increases the ability to supply gas to the gas network therefore reducing the risk of a gas supply emergency. The instrument also clarifies, and extends, the Gas Safety (Management) Regulations 1996 (GSMR 1996) definition of the gas network and those duty holders who are required to operate with a safety case document accepted by HSE. It makes clear that operators of liquified natural gas facilities are required to co-operate with others conveying gas and gas emergency co-ordinators. This instrument also removes outdated references to British Gas p.l.c. from the provisions requiring a continuously manned telephone service for the reporting of gas leaks and incidents, and instead requires that each gas network have a specific emergency reporting service provider to provide that service.

7. Policy background

What is being done and why?

7.1 This instrument is being made to improve the safety standards achieved to date by the GSMR 1996 and thus is one set of provisions made under the Health and Safety at Work etc Act 1974[3] designed to secure the health, safety and welfare of persons at work, protect others against risks to health or safety as a result of workplace activities and to control the possession, use and acquisition of dangerous substances.

7.2 Indigenous sources of gas in Great Britain are dwindling as resources from the UK Continental Shelf continue to be depleted. Great Britain's reliance on imports of gas has therefore increased but gas is traded globally and there is increasing demand hailing from the Far East and now in Europe. Diversification of Great Britain's supply sources will help to ensure it can continue to meet its demand for gas and help support our energy resilience. All future energy scenarios[4] to net zero predict the continued use of gas for heating, power generation and manufacturing. This instrument enables certain types of gas from the UK Continental Shelf to be injected into the gas network. Currently, these types of gas are not permitted to be conveyed in the gas network unless they are subjected to costly treatment or processing as they do not comply with the gas specification requirements in Schedule 3 to GSMR 1996. Changes to those specifications have been assessed as safe by the Health and Safety Executive and therefore serve to increase domestic supply and create less reliance on imported sources of gas, therefore supporting energy independence.

Explanations

What did any law do before the changes to be made by this instrument?

7.3 GSMR 1996 regulates the transport of natural gas through pipes to domestic and other consumers. They cover the safe management of gas flow through the network; arrangements for dealing with supply emergencies; arrangements for dealing with reported gas leaks and investigations and the specification, content and characteristics of the gas.

Why is it being changed?

7.4 Gas is used as a fuel in domestic, commercial, industrial and power generation settings, with an estimated 50 million domestic gas-fired appliances in Great Britain. Conveying gas to such settings is a major hazard which means that accidents can

[3] https://www.legislation.gov.uk/ukpga/1974/37/contents
[4] Future Energy Scenarios 2022 | National Grid ESO

cause loss of life, injury and loss of property; there were 100 flammable gas incidents resulting in injury reported in Great Britain in 2020/2021[5]. The gas network contains around 15,000 km of major accident hazard pipelines and is connected to approximately 24 million homes. Whilst this instrument will boost domestic gas supply, it is imperative that the industry is regulated effectively so that the risks of conveying gas are removed, or reduced as far as is reasonably practicable.

7.5 Twenty-five years has passed since these regulations came into force and Great Britain's gas network, as defined by the Gas Safety (Management) Regulations 1996 (GSMR 1996), no longer encapsulates the current breadth of gas conveyance occurring in Great Britain. Consequently, the regulations need to be updated, clarified and modernised in order to ensure safety standards are consistently applied across the network in respect of biomethane operators, liquified natural gas import facilities and arrangements for responding to gas leaks.

What will it now do?

7.6 In response to the issues outlined above, this instrument makes the following amendments to GSMR 1996:

a). To decrease the lower Wobbe Number (WN) limit for normal supply

Natural gas (majority methane) may only be conveyed in Great Britain when it meets the content and characteristics which are prescribed in Schedule 3 to GSMR 1996. The Wobbe Number (WN) of gas, which is an expression of the amount of energy within a gas and its density relative to air, is one such characteristic and gases must fall within the Wobbe Index[6] limits to be conveyed in the gas network. The change will decrease the lower WN limit to 46.5 Megajoules/Metre^3 which will enable gases with lower amounts of energy to be conveyed in the gas network. This change enables greater quantities of gas to be used from the UK Continental Shelf and also supports the continued use of green energy sources such as biomethane, in the gas network. This change will take effect on 6 April 2025 so as to allow impacted sectors opportunity and time to prepare for changes in gas quality.

b). To introduce a relative density value of ≤0.700 in Schedule 3 to GSMR 1996

Gas interchangeability performs a crucial safety function, important because it controls the safe combustion of gas as a fuel and ensures that gas which is conveyed to users does not affect the operation of their gas burning appliances or equipment. The method of calculating gas interchangeability currently uses the WN of the gas alongside Incomplete Combustion Factor (ICF) and Soot Index (SI) values. This proposal moves to a simpler mechanism of calculating gas interchangeability which is less burdensome on gas conveyors and aligns Great Britain with similar practices in other jurisdictions, whilst still controlling the usage of dangerous substances (in this case gas and its components). It will remove the Incomplete Combustion Factor and the Sooting Index values in Schedule 3 to the Gas Safety (Management) Regulations 1996 (GSMR 1996) and introduce a relative density value of ≤0.700.

c). To increase the permitted oxygen limit in gas networks

[5] https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.hse.gov.uk%2Fstatistics%2Ftables%2Fridgas.xlsx&wdOrigin=BROWSELINK

[6] https://www.legislation.gov.uk/uksi/1996/551/schedule/3/made

Schedule 3 to GSMR 1996 previously required all gas to have an oxygen content of ≤0.2% molar. However, prior to this instrument being made, HSE had granted a class exemption from that requirement and enabled gas to have an oxygen content of up to 1% molar provided that it was conveyed in a pipe at a pressure of no more than 38 bars (gauge). The higher oxygen content value in the exemption enables the use of non-conventional sources of gas such as biomethane in British gas networks which is beneficial to those who produce it but also because biomethane as a fuel source is lower carbon emitting than natural gas, so its use supports decarbonisation of the energy sector. This instrument amends the Gas Safety (Management) Regulations 1996 (GSMR 1996) to incorporate the effect of the class exemption. Formalising the class exemption in this way will provide biomethane producers with confidence that they can continue to supply gas to the British network. It will remove any ongoing administrative burden of producers requesting exemptions from the regulations for their gas, which incurs a cost and cost-recoverable time from the regulator.

d). Update the definition of the gas 'network' to clarify that biomethane production facilities and liquified natural gas facilities form one of the starting points for the network

Gas which is conveyed in pipelines forming a network (as defined in GSMR 1996) must be operated under an accepted safety case which documents how the risks involved in the activity are managed. The operator must also have emergency response provisions in place to respond to gas leaks and is required to co-operate with others conveying gas in a network. The definition of 'network' originally included in GSMR 1996 did not anticipate the use of gases such as biomethane in the network. Therefore, there is some lack of clarity as to whether any particular biomethane pipeline does form part of the gas network. This instrument amends the definition of the 'network' so that pipes used to convey biomethane are within the network and that a network begins from a biomethane production plant and a liquified natural gas facility. This amendment secures the health, safety and welfare of persons at work and protects others from the same risks by providing clarity to duty holders that biomethane pipelines must be operated with an accepted safety case. This will extend the regulatory duties associated with gas conveyance to operators of biomethane pipelines, ensuring consistency of approach, better coverage of the control measures these regulations use, and the operation of pipelines to recognised industry standards.

e). Clarifying that co-operation duties apply to operators of liquefied natural gas import facilities

GSMR 1996 impose the principle of co-operation between those conveying gas and between a network emergency co-ordinator (NEC). The NEC is a person responsible for preventing a loss of gas supply within a network. The persons originally required to co-operate with the NEC did not expressly include operators of liquified natural gas import facilities. Such facilities are a critical piece of energy infrastructure enabling the reception, storage, regassification and transportation of liquified natural gas, so that it can be used as a supply source in British gas networks. It is therefore important in terms of securing health, safety and welfare that the co-operation duties apply to these facilities, particularly so that the NEC may authorise these facilities to supply more gas during a gas supply emergency. This amendment will ensure that it is clear that the co-operation duties do apply to liquified natural gas import facilities.

f). Introduction of a general duty on the industry to provide a continuously manned gas emergency telephone service

The Gas Safety (Management) Regulations 1996 (GSMR 1996), when they came into force, required British Gas p.l.c. to provide a continuously manned gas emergency telephone service. The gas emergency telephone service enables members of the public to report gas leaks and then ensures a coordinated response from an adequately trained operator to attend the incident and make the situation safe. It is no longer considered to be reflective of the way in which the gas networks are operated in Great Britain for the duty to be placed on a single named operator. This instrument amends GSMR 1996 to require those duties to be carried out instead by an emergency reporting service provider. An 'emergency reporting service provider' is a person with a specific safety case which has been accepted by HSE. The requirements for the safety case for a person to be accepted as an emergency reporting service provider are set out in a new Schedule 2A (which is inserted by this instrument). Each network must have an emergency reporting service provider in order to operate. This amendment is considered to place that duty on the gas industry as the best executor whilst also fulfilling the objectives of the Parent Act by establishing adequate standards of service through the creation of a new Schedule outlining the standards of service a provider must demonstrate.

7.7 All of the above amendments will ensure that the regulatory provisions of GSMR 1996 will extend to, and encapsulate all, current gas conveyance activity. This will mean that the benefits of gas conveyance can continue to be obtained, whilst ensuring that greener gas sources can be used. The health, safety and welfare risks of gas conveyance can be adequately controlled, and all duty holders are regulated in the same manner to recognised industry standards.

8. European Union Withdrawal and Future Relationship

8.1 This instrument does not relate to withdrawal from the European Union / trigger the statement requirements under the European Union (Withdrawal) Act.

9. Consolidation

9.1 There are currently no plans to consolidate GSMR 1996.

10. Consultation outcome

10.1 A public consultation[7] on amendments to GSMR 1996 ran from Friday 28 January to Monday 21 March 2022. Stakeholders such as gas distributors, gas producers, power generators, commercial, domestic and industrial users of gas, manufacturers of gas appliances, gas engineers and professional bodies were targeted with specific communications signposting them to the consultation and a HSE e-bulletin was sent to persons signed up to receive relevant updates in health and safety policy. This e-bulletin was opened 42,598 times. The consultation received 55 online responses and 20 written submissions.

10.2 All proposed amendments received broad support at consultation. However, in response to the consultation responses, HSE has delayed the commencement date of the lower Wobbe Number limit change to 6 April 2025 given concerns raised about its impacts. In addition, specific transitional provisions are included to allow existing operators a grace period to prepare, submit or update their safety case, and to allow

[7] https://consultations.hse.gov.uk/hse/cd291-revision-gas-safety-management-regulations/

the existing emergency response service provider to continue to provide their relevant services.

10.3 In line with the duties imposed by the Health and Safety at Work etc. Act 1974 section 50(3)[8], HSE consulted the Office for Nuclear Regulation before submitting these proposals. Devolved administrations were kept informed too, both before and after the formal public consultation exercise.

10.4 Detailed analysis of the consultation outcome can be found in the consultation response[9] on the HSE Consultation Hub.

11. Guidance

11.1 Existing guidance[10] on these regulations is being revised and published on the HSE website. The Safety Case Assessment Manual[11] will also act as a resource to aid with the preparation of safety cases for duty holders now in scope for that provision.

12. Impact

12.1 The impact on business, charities or voluntary bodies is estimated at between £44 million and £337.9 million in present values over ten years, with a best estimate of £163.2 million. The cost mostly falls to business for the adaptation or maintenance of gas burning equipment; adaptations to gas distribution networks; increased gas engineer call-outs and the preparation, submission, review and assessment of safety cases for biomethane pipeline operators. The benefits are estimated to be between around £0.5 million and £501.7 million in present values over ten years, with a best estimate of around £215.5 million. The benefits are composed chiefly of additional gas production, although there is uncertainty around the negotiation of interconnector agreements with Belgium and the Netherlands, to which the United Kingdom is connected via undersea interconnectors. Delays to such agreements (or, in the worst case, a failure to reach agreements) could lead to delays or curtailment of additional gas production from the UK Continental Shelf.

12.2 There is no, or no significant, impact on the public sector.

12.3 A full Impact Assessment[12] is submitted with this memorandum and published alongside the Explanatory Memorandum on the legislation.gov.uk website.

13. Regulating small business

13.1 The legislation applies to activities that are undertaken by small businesses.

13.2 To minimise the impact of the requirements on small businesses (employing up to 50 people), the approach taken is to provide transitional periods before requirements take effect, to revise accompanying guidance and to continue to provide tailored guidance on the completion of safety case documents. Such mitigations will provide additional

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[8] https://www.legislation.gov.uk/ukpga/1974/37/section/50

[9] The consultation response will be published on the HSE website here CD291 - Revision of the Gas Safety (Management) Regulations 1996 - Health and Safety Executive - Citizen Space (hse.gov.uk)

[10] https://www.hse.gov.uk/pubns/priced/l80.pdf

[11] https://www.hse.gov.uk/gas/supply/gasscham/gsmrscam.pdf

[12] The impact assessment will be published on legislation.gov.uk alongside this instrument Legislation.gov.uk

time for small business to prepare for a different gas supply mix, and for biomethane operators to prepare safety cases should they not have an existing one, and help with their completion. The transition period will also enable costs to be spread over two years.

13.3 The basis for the final decision on what action to take to assist small businesses is the evidence obtained through consultation and research activity weighted against the level of risk involved in small business undertakings in this area. The public consultation received 17 responses from businesses identifying as small. Evidence has been documented in the 'Impact on small and micro businesses' section in the final stage impact assessment, and in response to the feedback received from small businesses, the mitigatory actions explained in section 13.2 will be used.

14. Monitoring & review

14.1 The approach to monitoring of this legislation is to undertake a post implementation review of this instrument 5 years from the date it comes into force. The post implementation review will gather evidence from stakeholders to establish if the regulations remain fit for purpose, are achieving their health and safety objectives and to establish whether intervention by regulation is still required and remains the most effective way of controlling risks related to gas conveyance. Alongside active consultation with stakeholders, appropriate datasets such as those obtained through the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013[13] will be used to monitor and evaluate the effect these regulations have on health and safety outcomes.

14.2 A statutory review clause is included in the instrument in line with the requirements of the Small Business, Enterprise and Employment Act 2015[14].

15. Contact

15.1 Stuart Burgoine at the Health and Safety Executive, Energy Policy Team Telephone: 07765043207 or email: Stuart.Burgoine@hse.gov.uk can be contacted with any queries regarding the instrument.

15.2 Kate Haire, Deputy Director for Regulation, International and Major Hazards Policy Branch, at the Health and Safety Executive can confirm that this Explanatory Memorandum meets the required standard.

15.3 Mims Davies MP, Minister for Social Mobility, Youth and Progression at the Department for Work and Pensions can confirm that this Explanatory Memorandum meets the required standard.

[13] https://www.legislation.gov.uk/uksi/2013/1471/contents
[14] https://www.legislation.gov.uk/ukpga/2015/26/contents