

## Amendments to the Gas Safety Management Regulations 1996

<b>Lead department</b>	Health and Safety Executive (HSE); Department for Business, Energy and Industrial Strategy (BEIS)
<b>Summary of proposal</b>	The proposal amends the Gas Safety Management Regulations 1996 (GSMR) to reflect changes in the gas network, and to ensure safety standards are consistently applied across the gas network in Great Britain.
<b>Submission type</b>	Impact assessment (IA) – 22/07/2022
<b>Legislation type</b>	Secondary legislation
<b>Implementation date</b>	December 2022
<b>Policy stage</b>	Final
<b>RPC reference</b>	RPC-HSE-5134(2)
<b>Opinion type</b>	Formal
<b>Date of issue</b>	05/09/2022

### RPC opinion

<b>Rating<sup>1</sup></b>	<b>RPC opinion</b>
<b>Fit for purpose</b>	The assessment of direct impacts on business and impacts on small and micro businesses are considered satisfactory. Overall, the evidence used to inform the IA appears to have been improved as a result of the consultation. There are some areas for strengthening, particularly in relation to assessment of wider impacts.

### Business impact target assessment

	<b>Department assessment</b>	<b>RPC validated</b>
<b>Classification</b>	Qualifying regulatory provision	Non-qualifying regulatory provision ( <i>de minimis</i> )
<b>Equivalent annual net direct cost to business (EANDCB)</b>	£0.5 million	£0.5 million (2019 prices, 2020 pv)

<sup>1</sup> The RPC opinion rating is based only on the robustness of the EANDCB and quality of the SaMBA, as set out in the [Better Regulation Framework](#). RPC ratings are fit for purpose or not fit for purpose.

<b>Business impact target (BIT) score</b>	£2.3 million	N/A
<b>Business net present value</b>	-£3.6 million	
<b>Overall net present value</b>	-£3.6 million	

## RPC summary

<b>Category</b>	<b>Quality<sup>2</sup></b>	<b>RPC comments</b>
EANDCB	<b>Green</b>	The regulator appears to have used the consultation to improve the evidence base for its estimates. There is a sufficient discussion of the counterfactual and the classification of direct impacts on business is consistent with RPC guidance.
Small and micro business assessment (SaMBA)	<b>Green</b>	The IA provides a brief discussion of the size distribution of businesses that might be affected by the proposal. It explains that an exemption would create safety concerns and discusses mitigation actions.
Rationale and options	<b>Satisfactory</b>	The IA provides a sufficient rationale for intervention and consideration of options. The IA provides a clear explanation for why the preferred option has changed since consultation and includes a sufficient discussion on non-regulatory options. The IA would benefit from providing further explanation of the preference for option 3.
Cost-benefit analysis	<b>Good</b>	The IA sets out the key input assumptions and methodology clearly, with appropriate use of sensitivity analysis to capture uncertainties.
Wider impacts	<b>Satisfactory</b>	The IA discusses a number of wider impacts, including competition, environment, trade and pass-through of costs to consumers. The impacts on trade and competition are discussed at a high-level, and the IA could usefully expand on these areas.
Monitoring and evaluation plan	<b>Satisfactory</b>	The regulator commits to producing a PIR within a five-year timeframe. The IA sets out key objectives, data collection plans and proposed evaluation methods. The plan would be strengthened by providing further information on the proposed research questions and how unintended consequences will be identified and factored into the evaluation.

<sup>2</sup> The RPC quality ratings are used to indicate the quality and robustness of the evidence used to support different analytical areas. Please find the definitions of the RPC quality ratings [here](#).

## Summary of proposal

The Gas Safety Management Regulations (GSMR) govern the safety and management of gas inserted into the gas network in Great Britain. Since GSMR was introduced in 1996, the GB gas market has been liberalised and the supply mix has shifted away from domestic production to imports. In addition, there is now a greater emphasis on green energy consumption due to the Government's Net Zero ambition. These changes have meant that the safe gas composition specification set out in schedule three of GSMR no longer encapsulates the current breadth of gas conveyance in GB.

The proposal will make several amendments to the GSMR to modernise the framework and ensure that safety standards are consistently applied across the gas network. The main objectives of these amendments are:

- To maintain or improve the safety standards that have been achieved to date by the GSMR.
- To ensure clarity and consistency in how pipeline operators and Liquefied Natural Gas (LNG) import terminals are regulated by GSMR.
- To ensure that industry changes are reflected within the gas emergency call handling service and that it remains accessible to the public.

The IA considers two options to amend the GSMR against the 'do nothing' counterfactual:

- Option 1: Do nothing.
- Option 2: To make all of the proposed amendments that were taken to consultation after being assessed as safe, including reducing the lower Wobbe Number (WN) from  $\geq 47.2 \text{ MJ/m}^3$  to  $\geq 46.5 \text{ MJ/m}^3$ .
- Option 3 (preferred option): To progress the majority of the amendments that were taken to consultation after being assessed as safe, except the change to amend the lower WN. The full list of the proposed amendments to GSMR is provided at annex 1.

The proposed changes to GSMR will be made via an amending secondary legislation statutory instrument with a coming-into-force date of December 2022. The regulator estimates a net present value of -£4.3 million (2022 prices, 2023 present value base year) over a 10-year appraisal period. Costs are estimated at £4.8 million, mainly accounted for by the cost to biomethane producers for the production and review of safety cases. Benefits are estimated at £0.5 million, primarily from savings to gas producers from no longer needing to meet the Sooting Index (SI) and Incomplete Combustion Factor (ICF) requirements.

### Linkages to previous submission

The RPC has previously issued an informal opinion on this proposal's consultation stage IA. Following the consultation process, the regulator's preferred option has changed from option 2 to option 3. The IA explains this is based on new HSE analysis which indicates that changing the lower WN value may lead to a number of

unintended consequences and very high costs for part of the industry. In addition, the benefits that this option could deliver are highly uncertain and subject to several external factors, e.g., Network Entry Agreements. The regulator's preferred option (option 3) does not, therefore, make changes to the WN requirements. This change in policy position has resulted in a lower EANDCB and NPV compared to the consultation stage IA.

## **EANDCB**

### Counterfactual

The IA provides a good description of the counterfactual (pages 8-9). The IA explains that the counterfactual position is that the GB's safe gas composition specification set out within GSMR will be retained, with industry seeking exemptions under Regulation 11 where necessary. The IA's approach of assuming no exemptions in the counterfactual appears to be reasonable on the basis that there is no expectation that industry would apply for these, and any such exemption granted by the HSE would be time-limited.

The IA would be strengthened by providing more information on the exemption process and how widely these exemptions are currently being used. The regulator should consider whether the use of sensitivity analysis may be appropriate to capture the impact on EANDCB if class exemptions were factored into the counterfactual.

### Direct/indirect impacts

Following RPC comments at the consultation stage, the IA has now distinguished between direct and indirect impacts to businesses, and the classification appears to be consistent with RPC guidance. The IA explains that the direct impacts will fall to the duty holders in scope of GSMR, which are gas distributors and biomethane producers, with impacts to all other business groups considered as indirect. The IA would be strengthened by providing further explanation to support the indirect classifications.

The IA treats the large majority of the impacts from the lower Wobbe limit in option 2 as indirect (table 25, page 49). This includes the benefit to gas producers of increased gas production and the costs to power generators and industrial end-users, for example of equipment modifications. The benefits of increased profit to gas producers, as additional types of gas are allowed to be supplied, would potentially be direct, in that it would seem to follow the removal of a regulatory barrier to the supply of this gas and come mainly from existing fields and without significant investment or major production change. However, the IA describes that the supply of additional gas depends upon the change process undertaken by the industry and would require Unified Network Code modifications and Network Entry Agreement (NEA) renegotiations. On this basis, the RPC can accept the IA's treatment of this impact as indirect. It would then follow that the associated costs are indirect, although at least some of those might be indirect anyway (more likely those furthest down the supply chain). Nevertheless, the IA would benefit from discussing its direct

and indirect treatment of the costs and benefits of the lower Wobbe limit in more detail, with reference to RPC guidance<sup>3</sup>. The same comment applies to the (much smaller) gas processing savings from the removal of the Incomplete Combustion Factor (ICF) and Soot Index (SI) limits, which are also a feature of option 3.

### Non-monetised costs

The IA has now monetised many of the non-monetised impacts in the consultation stage IA and it provides a good explanation on the evidence gaps and data limitations. The IA would be strengthened by quantifying or providing a sense of scale of the remaining non-monetised impacts, such as potential impacts on gas prices and consumer outcomes from potentially longer turbine outages, where it is proportionate to do so.

### Confirmation of the BIT status for the alternative option (option 2)

The regulator has additionally requested confirmation of the BIT status of the presently non-preferred option 2, to support presentation of the final policy decision to stakeholders and any decision to pursue this option. The RPC is content that the IA's analysis of the direct impacts on business of this option is sufficient to also confirm this option as *de minimis* and, therefore, non-qualifying against the BIT.

See also comments under 'cost-benefit analysis' below.

## **SaMBA**

The IA provides a satisfactory assessment of impacts on small and micro businesses (SMBs). Although the IA has not been able to set out the number of SMBs that will be impacted by the proposal due to data limitations, it has provided an indication of the business size distribution of the main affected sectors. It identifies that biomethane producers and businesses involved in gas discovery are likely to be small and micro, whereas gas distributors and producers are typically large companies. The IA would be strengthened by exploring this further and considering how the evidence gap could be improved, such as through engagement with small business representative bodies.

The IA explains that all businesses, regardless of size, will be in scope of the proposal and that exempting SMBs from the gas quality requirements will create a safety risk. The regulator does not expect the proposal to affect SMBs disproportionately. The IA would be strengthened by providing evidence to support that SMBs will not be disproportionately impacted by familiarisation or implementation costs. The SaMBA includes a discussion on mitigation methods, including an extended transition period for biomethane operators to prepare safety cases where they do not have an existing one and for HSE to produce guidance on how to fill out safety cases. The IA would benefit from considering whether these potential mitigations should be tailored specifically for SMBs.

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<sup>3</sup> <https://www.gov.uk/government/publications/rpc-case-histories-direct-and-indirect-impacts-march-2019>

## Rationale and options

The IA provides a good summary of the problem under consideration and the rationale for intervention. The IA explains that GSMR must be updated to ensure safety standards are consistently applied across the network. The IA provides a clear set of policy objectives and explains how the proposal fits into wider Government strategy, such as Net Zero by 2050.

The IA provides a good discussion on options that have been considered but not taken forward on pages 10-11, citing potential risks and safety concerns. The IA would benefit from further explanation of why regulatory change is preferred over issuing exemptions.

The RPC notes that option 2 has a higher NPV than the preferred option, except in the 'low scenario'. The IA provides a reasonable explanation for the policy preference at this time, in that the benefits of the lower Wobbe limit appear to be much lower than expected and highly uncertain, with significant costs to other parts of industry. The IA also notes that implications of decarbonisation for gas quality in gas networks is subject to ongoing work and changes made now to gas specification would carry the risk of increasing the cost of future changes that are required to achieve Net Zero. Nevertheless, given the acute current concerns around energy security, reducing import dependency and increasing gas supplies to tackle the cost-of-living crisis, the IA would benefit from further explanation around the preference for option 3 over option 2. In addition, the IA would benefit from providing further evidence on the safety concerns with raising the WN limits, including an explanation on which types of gas would be impacted by these changes.

## Cost-benefit analysis

### Evidence and data

The IA provides a clear description of the evidence-gathering process on pages 11-12. The cost-benefit analysis is informed by a good range of data sources, including a public consultation, stakeholder interviews, survey and workshops. The regulator appears to have used the consultation to improve the evidence base and updates the estimates provided in the consultation stage IA. The IA provides a helpful summary of how the analysis has been changed since consultation stage, including updates to key assumptions (pages 52-54). The IA could usefully expand table 27 to include how the cost and benefit estimates have changed for option 2. In particular, the maintenance costs to power generators have fallen significantly since the consultation stage; the IA would benefit from providing more details to explain this change. It should also clarify the impacts that were excluded from the net present value since the consultation stage IA.

### Uncertainty, risks and assumptions

The IA provides a well-structured section on the potential costs and benefits of the proposal, including a clear description of methodology and assumptions made. The IA helpfully provides cost ranges to reflect uncertainty in several input assumptions.

The sensitivity analysis (on pages 50-51) could be strengthened by providing further details on gas prices, in particular a discussion on the potential short- and long-term changes to gas prices would be helpful.

The IA would benefit from discussing how it has determined the value of the increased gas production to gas producers in option 2. It appears that revenue was used, on the basis that there are no significantly additional costs, but the IA would benefit from addressing more directly why this is a good proxy for profit in this case. The IA would benefit from providing more detail, if available, of what additional gas sources could be added to the UK supply as a result of amending the lower Wobbe Number limit. It should also consider which sources of supply might be displaced due to this impact.

Given the current uncertainty in relation to energy security, the IA should consider whether the use of sensitivity analysis might be appropriate to capture the potential disruption to UK gas supply and implications on the cost benefit analysis. The IA would also benefit from providing more details on what constitutes as a 'gas emergency' and when the use of emergency Wobbe Number limits would be appropriate. The regulator provides a clear explanation of why the appraisal period has changed since the consultation stage IA. The IA explains that the 21-year appraisal period used in the consultation stage was intended to capture the expected investment cycle in new equipment. However, evidence from the consultation indicates that such investments are unlikely and, therefore, the regulator has reverted to using the usual 10-year appraisal period. The reversion to the standard 10-year appraisal period is reasonable but the IA would benefit from using sensitivity analysis to illustrate the impact of a longer appraisal period.

## **Wider impacts**

The IA covers a range of wider impacts, including environmental, trade, competition and potential pass-through of costs to consumers. Following the RPC comments at the consultation stage, the IA now provides more detail on potential emission savings and monetises these. Much of the analysis relates to option 2, where wider impacts are likely to be more significant. The impacts on trade and competition are discussed at a high-level, and the IA could usefully expand on these areas. The section on trade in relation to option 2 could be discussed further, in particular on the reference to reducing UK import dependencies given the current concern on energy security.

The IA notes that, under option 2, there is a possibility of an increase in costs to consumers from increased turbine maintenance costs and increase engineer callouts, however, it has not been able to quantify the potential impact of this. The IA would benefit from engaging further with stakeholders to provide a scale of consumer impact if it is proportionate to do so. It should also continue to monitor impacts on consumers as part of its monitoring and evaluation plan. The IA would be strengthened by discussing the impact on supply and import dependency further, especially given the present rejection of option 2 (the only option that seeks to address this particular policy objective).

Given the objectives of the proposal, the IA would benefit from including a section to discuss the impact on human health and safety. It would benefit from explaining whether the proposal may pose any new risks and clarifying the risks of not implementing the proposed legislative changes. In addition, the IA could be improved by considering how the proposal could interact with the Government's Net Zero ambition, the current rise in energy prices and any potential short-term policy changes, such as shale gas extraction. The IA would benefit from specifically discussing impacts on the public sector, particularly on HSE resourcing.

## Monitoring and evaluation plan

The IA provides a satisfactory monitoring and evaluation (M&E) plan, which sets out the key policy objectives, data collection plans and proposed evaluation methods. The IA includes a clear explanation of the existing evidence that could inform the evaluation, as well as a discussion of evidence gaps and plans to address these through commissioning research and engaging with key stakeholders. The IA would be strengthened by providing more details of the stakeholder engagement plans. The IA also includes a commitment to review the amendment and produce a PIR within the five-year timeframe. Given the current situation in relation to energy security, the IA would benefit from considering whether an earlier review might be appropriate to capture any potential risks and unintended consequences of the proposal. The M&E would be strengthened by including the key research questions that will be used to measure the extent to which the objectives have been met. Although the regulator explains that unintended consequences will be monitored, the IA would benefit from setting how these will be identified and factored into the evaluation.

### Regulatory Policy Committee

For further information, please contact [regulatoryenquiries@rpc.gov.uk](mailto:regulatoryenquiries@rpc.gov.uk). Follow us on Twitter [@RPC\\_Gov\\_UK](https://twitter.com/RPC_Gov_UK), [LinkedIn](#) or consult our website [www.gov.uk/rpc](http://www.gov.uk/rpc). To keep informed and hear our views on live regulatory issues, subscribe to our [blog](#).



## Annex 1

The amendments HSE intend to make are:

- To extend the current GSMR class exemptions for oxygen in biomethane to a general  $\leq 1$  mol% oxygen limit at pressures at or below 38 barg<sup>4</sup> for all gas sources. This amendment formalises the current class exemption that has been in place since 2013 which allows for a higher oxygen content within the gas composition as long as it is operated at pressures below 38 barg. This exemption has served to enable the use of biomethane in distribution networks which has the benefit of being greener than natural gas usage.
- To remove the Incomplete Combustion Factor (ICF) and Soot Index (SI) limits and to introduce a relative density of  $\leq 0.7$  for gas interchangeability. This amendment will update from previous research and testing conducted on appliances that were widely available in the 1970s and no longer reflect modern appliance behaviour. Introducing the relative density as the secondary parameter with WI and limiting it to  $\leq 0.7$  provides a simpler mechanism to account for the effects of burning hydrocarbons on CO production and sooting and would make GB consistent with European Committee for Standardization (CEN) standards and methods adopted in other jurisdictions such as the USA.
- To clarify that biomethane pipelines are to be considered to be part of the gas network. This amendment seeks to ensure that the safety case regime and other duties which GSMR places on conveyers of gas is being applied to biomethane pipelines, some of which have interpreted the regulations as not applying due to regulation 2(4) which states that pipelines conveying out-of-specification gas to a treatment or blending point are not part of the network and so not subject to the duties placed on those conveying gas in a network. HSE believes this is a necessary and proportionate measure to ensure that major hazard pipelines are being managed consistently and appropriately
- To provide clarity that co-operation duties apply to operators of LNG import facilities. Whilst this is happening in practice already, a legal interpretation provided by the Government Legal Division (GLD) has suggested that LNG import facilities may not be covered adequately and so this amendment will ensure the co-operation duties are clearly applicable. As LNG import facilities are critical to GB's energy supply, it is important to ensure they liaise with gas conveyors and the network emergency co-ordinator when necessary.
- To provide a general duty on the industry to provide a continuously manned telephone service. As the current regulations place this duty specifically on British Gas PLC (which is no longer an operating entity), they require updating so that there continues to be a service that operates in perpetuity by industry to receive referrals of gas escapes and activate first call operatives to respond to an incident and make the situation safe.

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<sup>4</sup> Barg is a measure of pressure in bars above ambient or atmospheric pressure.