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## Uniform Network Code (UNC) 0870: Amendments to Wobbe Index and Calorific Value Lower Limits at NTS System Entry Points

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<b>Decision:</b>	The Authority <sup>1</sup> directs this modification to be made <sup>2</sup>
<b>Target audience:</b>	UNC Panel, Parties to the UNC and other interested parties
<b>Date of publication:</b>	21 March 2025
<b>Implementation date:</b>	To be confirmed by the code administrator

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### Background

The Gas Safety (Management) (Amendment) Regulations 2023 entered into force on 6 April 2023, which reduced the lower limit for Wobbe Index that UK Gas Transporters are permitted to convey on their networks from 47.2 MJ/m<sup>3</sup> to 46.5 MJ/m<sup>3</sup> with effect from April 2025. Consequently, some Delivery Facility Operators (DFOs) wish to amend their Network Entry Provisions to implement the lower Wobbe Index limit in their entry arrangements with National Gas Transmission (NGT, the Proposer).

According to paragraph 2.2.3(a) of the UNC Transportation Principal Document (TPD) Section I, where the Transporter and the relevant DFO have agreed (subject to a UNC code modification) upon an amendment to any such Network Entry Provisions, such Network Entry Provisions may be amended for the purposes of the UNC Code by way of code modification pursuant to the Modification Rules.

### The modification proposal

On 11 March 2024, NGT raised UNC0870 'Amendments to Wobbe Index and Calorific Value Lower Limits at NTS System Entry Points'.<sup>3</sup> This modification, if approved, will enable NGT to

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<sup>1</sup> References to the "Authority", "Ofgem", "we" and "our" are used interchangeably in this document. The Authority refers to GEMA, the Gas and Electricity Markets Authority. The Office of Gas and Electricity Markets (Ofgem) supports GEMA in its day to day work. This decision is made by or on behalf of GEMA.

<sup>2</sup> This document is notice of the reasons for this decision as required by section 38A of the Gas Act 1986.

<sup>3</sup> <https://www.gasgovernance.co.uk/0870>

amend the following gas quality parameters contained within the Network Entry Provisions that are in place with the relevant DFOs:

- the lower limit for Wobbe Index from 47.2 MJ/m<sup>3</sup> to 46.5 MJ/m<sup>3</sup> at five National Transmission System (NTS) System Entry Points, namely (1) Bacton Perenco, (2) Barrow, (3) Grain LNG, (4) St Fergus NSMP and (5) Teesside Px.
- the lower limit for Calorific Value at Grain LNG, St Fergus NSMP and Teesside Px from 36.9 MJ/m<sup>3</sup> to 36.0 MJ/m<sup>3</sup>, which is a consequent change due to a lower limit for Wobbe Index at these System Entry Points.

The modification will also enable NGT to amend the following gas quality parameters contained within the Network Entry Provisions and Network Exit Provisions<sup>4</sup> that are in place with the following Adjacent Transmission System Operators (TSOs) in respect of the following Interconnection Points at Bacton:

- the lower limit for Wobbe Index from 47.2 MJ/m<sup>3</sup> to 46.8 MJ/m<sup>3</sup> at the Interconnection Points with BBL Company and Interconnector Limited.

The Proposer recognises that implementation of a wider range Wobbe Index has the potential to impact the operations of some industrial and commercial consumers, notably Combined Cycle Gas Turbines (CCGTs) Power Generators. The modification therefore also obliges the DFOs who have requested the reduced Wobbe Index Limit to provide an annual rolling five-year forecast of the Wobbe Index and Calorific Value of the gas expected to be delivered to the NTS in each gas year. The forecast shall set out the DFO's best estimate of minimum and maximum Wobbe Index and Calorific Value under 'normal conditions' and a wider range that such gas could extend to in respect of these parameters under 'upset conditions', such as start-up and shutdown of a plant or during periods of terminal or offshore outage and shall be provided to NGT by no later than 31 August in each year. NGT shall then publish this information on its website no later than 30 September in each year, provided that the relevant DFOs have submitted the information to NGT by the specified date.

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<sup>4</sup> In accordance with paragraph 4.1.3(b) of the UNC European Interconnection Document Section A.

## UNC Panel<sup>5</sup> recommendation

At the UNC Panel meeting on 16 January 2025, a majority of the UNC Panel considered that UNC0870 would better facilitate the UNC objectives and the Panel therefore recommended its approval, with nine in favour out of a possible 14.

## Our decision

We have considered the issues raised by the modification proposal and the Final Modification Report (FMR) dated 16 January 2025. We have considered and taken into account the responses to the industry consultation on the modification proposal which are attached to the FMR<sup>6</sup>. We have concluded that:

- implementation of the modification proposal will better facilitate the achievement of the relevant objectives of the UNC;<sup>7</sup> and
- directing that the modification be made is consistent with our principal objective and statutory duties.<sup>8</sup>

## Reasons for our decision

We consider this modification proposal will better facilitate UNC relevant objectives (RO) (a) and (d) and has a neutral impact on the other ROs.

### ***(a) the efficient and economic operation of the pipe-line system to which this licence relates***

The Proposer and Panel Members are of the view that UNC0870 would have a positive impact on RO (a). They consider that the modification will facilitate additional volumes of gas to be

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<sup>5</sup> The UNC Panel is established and constituted from time to time pursuant to and in accordance with the UNC Modification Rules.

<sup>6</sup> UNC modification proposals, modification reports and representations can be viewed on the Joint Office of Gas Transporters website at [www.gasgovernance.co.uk](http://www.gasgovernance.co.uk)

<sup>7</sup> As set out in Standard Special Condition A11(1) of the Gas Transporters Licence, available at: [Licences and licence conditions | Ofgem](#)

<sup>8</sup> The Authority's statutory duties are wider than matters which the Panel must take into consideration and are detailed mainly in the Gas Act 1986 as amended.

transported through the existing network infrastructure than would otherwise be the case and reduces the reliance of low Wobbe Index gas on richer blend sources. Six out of the eight consultation respondents view this modification as having a positive impact on RO (a) and the remaining two respondents do not provide specific comment on the impact on this RO.

We agree with the Proposer and Panel Members that the modification could facilitate additional volumes of gas to be transported through the NTS and reduce requirement for blending with higher Wobbe Index gas, which should promote the efficient and economic operation of the NTS.

For these reasons, we consider that UNC0870 will better facilitate RO (a).

***(d) so far as is consistent with sub-paragraphs (a) to (c) the securing of effective competition:***

***(i) between relevant shippers;***

***(ii) between relevant suppliers; and/or***

***(iii) between DN operators (who have entered into transportation arrangements with other relevant gas transporters) and relevant shippers***

The Proposer and some Panel Members are of the view that UNC0870 would have a positive impact on RO (d) as it will facilitate greater flexibility in the transportation of gas by allowing more gas supplies to be eligible to enter the NTS. They consider that maximising gas delivery capability and greater supply diversity could result in more shippers delivering gas to the NTS, thereby improving competition in the GB gas market. Some Panel Members believe there is a negative impact on this RO in relation to those shipping gas for power generation and performance of gas turbines and industrial equipment if it results in such assets tripping, resulting in market impacts. Six out of the eight consultation respondents view this modification as having a positive impact on RO (d) and the remaining two respondents do not provide specific comments on the impact on this RO.

We have considered the information provided in the FMR, during Panel discussions and in the consultation responses. We have also considered the Gas Safety (Management) Regulations

1996 (GSMR) Impact Assessment<sup>9</sup> (dated February 2023) and the consultation response document titled 'CD291 - Amendments to the Gas Safety (Management) Regulations 1996 consultation response'<sup>10</sup>, both of which were published by the Health and Safety Executive (HSE) in relation to the proposed amendments to the Wobbe Index limit in the GSMR and are referenced in the FMR. We agree with the Proposer and Panel Members that a reduced lower limit for Wobbe Index at the relevant System Entry Points would allow more gas supplies to be eligible to enter the NTS. Reduced requirements for blending should also reduce overall costs of delivering gas to the NTS. These should enable more Shippers to deliver gas to the NTS and in theory facilitate competition between them.

We note that adaptation and tuning will be required for some of the Power Generators to cope with lower Wobbe Index gas and turbines may need to be shut down when the work is being carried out. However, as noted in the HSE Impact Assessment, turbines already undergo periodic maintenance which is timed to coincide with periods of lower electricity demand wherever possible to limit lost output.<sup>11</sup> We agree with HSE's view that outages of specific turbines are not expected to mean wholesale power outages. We also note that the delayed commencement date of the new lower limit of the Wobbe Index (ie two years after the GSMR was amended) has been implemented in order to limit any impacts and enable impacted sectors to adapt and prepare for a wider specification of gas quality.<sup>12</sup> In this regard, while asset tripping in individual Power Generators due to lower Wobbe Index gas is possible, we do not consider that it would result in negative impact on the gas shipping market and competition between relevant Shippers.

For these reasons, we consider that UNC0870 will better facilitate RO (d).

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<sup>9</sup> <https://consultations.hse.gov.uk/hse/cd291-revision-gas-safety-management-regulations/results/impactassessmentforgsmr2023.pdf>

<sup>10</sup> <https://consultations.hse.gov.uk/hse/cd291-revision-gas-safety-management-regulations/results/hseconsultationresponseforgsmr2023.pdf>

<sup>11</sup> Paragraph 147 of HSE Impact Assessment

<sup>12</sup> Paragraph 150 of HSE Impact Assessment

## **Ofgem's principal objective and statutory duties**

Ofgem's principal objective is to protect the interests of existing and future consumers, including their interests in the achievement of the Net Zero target and in the security of the supply of gas and electricity to them.

### ***Security of supply of gas and electricity in the context of our principal objective***

The Proposer is of the view that UNC0870 would have a positive impact on improving reliability of gas customer supplies. Implementation of a lower Wobbe Index limit at NTS System Entry Points will enable lower Wobbe Index gas that currently requires blending with a richer source(s) to make it compliant to enter the NTS, thus allowing more gas to be transported to the GB. The Proposer also considers that the modification would have benefits for society as a whole, because implementing the reduction in the lower limit for Wobbe Index would help improve energy resilience and energy independence. Five consultation respondents and some Panel Members note that the modification would have a positive impact on security of supply of gas to the GB/UK consumers and/or enhance energy resilience. However, one respondent notes that the volumes of additional gas involved would be small so the positive impact is marginal.

The Proposer notes that, as pointed out by HSE, the impacts of reducing the lower Wobbe Index limit are greatest on the power generation sector in view of the costs that may be incurred by them. The Proposer notes that suitable transparency measures are proposed in the modification, ie publication of annual rolling five-year forecast of the Wobbe Index and Calorific Value of the gas expected to be delivered to the NTS in each gas year at the relevant System Entry Points. One consultation respondent notes that the HSE Impact Assessment was not able to fully assess the impact of lower Wobbe Index limit on the electricity system and the impact of this modification on Power Generators and electricity supply could be negative as Power Generators will face outages and/or costs for adaptation to be able to use gas with a potentially wider Wobbe Index range than before. One respondent notes that a two-year delay in the implementation of new Wobbe Index limit in GSMR allows time for gas users to adapt to the change and to mitigate against any risks identified. Some Panel Members note that CCGTs are expected to incur additional costs which they would expect to flow into electricity prices

and security of supply of electricity may also be impacted. Some Panel Members further note that there may be some impact on Power Generators but that this may not be significant.

We have taken a whole-system perspective in assessing the potential impact on both the gas and electricity systems and impact on consumers in relation to the security of supply of gas and electricity to them. We agree with the Proposer, consultation respondents and some Panel Members that the modification will have a positive impact on security of supply of gas, because a wider Wobbe Index range implemented at the System Entry Points will enable gas to enter the NTS that currently requires blending to make it acceptable. This would in theory enable more gas to be supplied to the NTS.

In relation to the potential impact on the electricity system, as noted in our assessment on RO (d) above, we agree with HSE's view that outages of specific turbines are not expected to mean wholesale power outages and note that the delayed commencement date of the new lower range of Wobbe Index should enable the impacted sectors to adapt and prepare for a wider specification of gas quality. We have also considered potential network penetration, ie the extent to which any new low Wobbe Index gas could spread throughout the network, and the estimates of costs to Power Generators to adapt to lower Wobbe Index gas, including the costs per Power Generator and total costs to the industry, provided in the HSE Impact Assessment.<sup>13</sup> While the actual costs incurred on individual Power Generators could vary, we believe that Power Generators would likely be able to bear the costs and adapt their equipment if needed. We also consider that, given the scale of adaptation and tuning work required, Power Generators would likely be able to plan for and conduct such work as part of their routine scheduled maintenance, which is timed to coincide with periods of lower electricity demand. We therefore believe the adaption work required and costs involved are unlikely to trigger a negative impact on electricity security of supply (e.g. a considerable number of turbines being shut down or retired early, reducing overall output of the gas-fired power generation sector). We also note that the annual publication of gas quality data in relation to the relevant System Entry Points as outlined in this modification would address the concerns of potential impact on end users, including Power Generators, to a certain extent. As to the impact on electricity price, given the adaptation costs involved and that wholesale

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<sup>13</sup> Paragraph 163 of HSE's Impact Assessment

outage is unlikely, we consider that the modification would unlikely result in a major or sustained impact on electricity price.

For these reasons, we consider that, on balance, UNC0870 would have a positive impact on security of supply of energy to consumers.

### ***Achieving the Net Zero target in the context of our principal objective***

The Proposer is of the view that the modification would result in a reduction in the requirements for gas processing prior to NTS entry and thereby reduce emissions of greenhouse gases. One consultation respondent notes that the modification will enable additional gas production to be supplied to the NTS from domestic United Kingdom Continental Shelf (UKCS) sources, thus reducing reliance on richer blend sources such as liquefied natural gas (LNG) which have a higher carbon footprint. Another respondent notes that overall emissions related to the wider UK gas transportation network are anticipated to be materially lower than would otherwise be the case if the UK is more reliant on non-domestic gas supplies. Some Panel Members note that lower Wobbe Index gas may have an impact on the performance of domestic and commercial appliances. As noted by the HSE's Impact Assessment, lower Wobbe Index gas may cause boilers to make a humming or reverberating sound or to suffer from reduced performance. Some Panel Members are therefore unclear how the positive impact noted by the Proposer compares with such effect on gas appliances and unsure whether there is likely to be a net impact on Net Zero.

We agree with the Proposer and consultation respondents that this modification should result in a reduction in the requirement for gas processing, which will reduce emission of greenhouse gases. In theory, it should also reduce demand for imported gas which may have a higher carbon footprint<sup>14</sup> as it will facilitate additional volumes of local gas, including those supplied from UKCS sources, to be supplied to the NTS, although we believe the impact would not be significant because demand for imported gas is also driven by other factors. As regards the Panel Members' views on the performance of domestic and commercial appliances, we do not see any evidence suggesting that this will have a negative impact on Net Zero.

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<sup>14</sup> [Natural Gas Carbon Footprint Analysis - The North Sea Transition Authority.](#)



For these reasons, we consider that UNC0870 would have a positive impact on the achievement of the Net Zero target.

### **Decision notice**

In accordance with Standard Special Condition A11 of the Gas Transporters Licence, the Authority has decided that modification proposal UNC0870: 'Amendments to Wobbe Index and Calorific Value Lower Limits at NTS System Entry Points' should be made.

**William Duff**

**Head of Gas Systems and Operation**

Signed on behalf of the Authority and authorised for that purpose