

Gas  
Transmission

# GS(M)R Review

# CV Shrinkage Analysis

Transmission Workgroup  
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nationalgrid



# Background

HSE has consulted on a proposal to amend the lower limit for Wobbe Index in GS(M)R from 47.2 MJ/m<sup>3</sup> to 46.5 MJ/m<sup>3</sup>

If this amendment is approved, it may result in some NTS entry points delivering gas with a lower Wobbe Index and consequently lower CV

If gas is offtaken at a GDN offtake with a CV lower than 1 MJ/m<sup>3</sup> below the flow-weighted average CV (FWACV) of all inputs to that charging area, the CV used for charging consumers is capped at that lowest source plus 1 MJ/m<sup>3</sup>

This generates an amount of unbilled energy, aka CV shrinkage, which NGG procures, the costs of which are passed through to NTS shippers

We therefore wished to assess the potential for additional CV shrinkage as a consequence of the GS(M)R Review

# Survey of NTS Entry Terminals

We issued a survey to NTS entry terminal operators which contained the following two questions:

1. If HSE's proposals are implemented and your entry point was eligible to deliver gas with a Wobbe Index of  $46.5 \text{ MJ/m}^3$ , what CV would you expect your terminal to deliver to the NTS during calendar years 2023-2025? (Low, central, high case)
2. If HSE's proposals are not implemented and the UK lower limit for Wobbe Index remains at  $47.2 \text{ MJ/m}^3$ , what CV do you expect your terminal to deliver to the NTS during calendar years 2023-2025? (Low, central, high case)

We committed to report on the results of our analysis anonymously to encourage maximum participation

# Summary of Survey Results

**13 responses were received out of 18 surveys issued**

**8 responses indicated no change to the range of CV of gas expected to be delivered**

**3 responses indicated changes  $<0.2 \text{ MJ/m}^3$  to the lowest CV they may deliver**

**2 responses indicated potential changes between  $0.5 \text{ MJ/m}^3$  and  $0.8 \text{ MJ/m}^3$  to the lowest CV they may deliver**

# Analysis Approach

The two terminals that indicated potential CV changes between 0.5 MJ/m<sup>3</sup> and 0.8 MJ/m<sup>3</sup> were selected

Actual volumes and CVs of relevant network offtakes plus actual FWACVs for the relevant charging areas were taken from 15 sample high demand days in the past 12 months

FWACVs for the relevant charging areas were recalculated using the new lower CV provided by the relevant terminals

The nearest network offtake to the terminals was assumed to measure the revised lower CV

Other relevant NTS entry flows and CVs were held constant to their actual values on those days

# Analysis Results

## Terminal A:

Due to comingling with other supplies, the FWACV remained within 1 MJ/m<sup>3</sup> of the lowest source input, therefore no additional CV shrinkage was observed

## Terminal B:

Additional CV shrinkage was calculated at an average of 2.9 GWh/day and an average cost of £249k/day\* based on the days modelled

However, we would not expect this to occur in reality due to:

- the configuration of how gas enters the nearest network offtake
- the operator's view that any low CV gas delivered would only occur during start-up/shutdown processes lasting a few hours, i.e. the daily CV used for the shrinkage calculation would be a higher value

\* Based on actual SAPs on the days modelled

# Conclusions

**If the Wobbe Index lower limit is reduced as proposed by the GS(M)R Review, we consider it unlikely that a change to the CV range of gas delivered from the majority of NTS entry points will manifest**

**We could see minor reductions in CV levels at a few terminals which are unlikely to result in a material increased CV shrinkage risk**

**Two terminals may deliver more materially lower CV supplies. We consider it unlikely that additional CV shrinkage will arise as a consequence, either because of comingling with other supplies before reaching a network offtake or such instances being short-term transient events**