

Workshop Distribution Network Balancing



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NEN Workshop Invoeden Groen Gas 29 April 2016 System balance Technical connection Ministeriele Regeling Gaskwaliteit MR GasQ specifies gas quality level (what)



MR Gas Quality Injection details

Paraphrasing the Dutch legal text: Normative notes in the table of gas quality specifications

- 1. The Wobbe-number of the injected gas shall be higher than the lower bound for at least at 50% the time. During any continuous interval of one year their shall be no more than 200 times an hourly period where the minimum Wobbe-number is between 0.2 and 0.3 MJ/m³(n) below the lower bound, but not more than once in an interval of 12 hours During any continuous interval of one year their shall be no more than 10 times an hourly period where the minimum Wobbe-number is more than 0.3 MJ/m³(n) below the lower bound, but not more than once in an interval of .3 MJ/m³(n) below the lower the minimum Wobbe-number is more than 0.3 MJ/m³(n) below the lower bound, but not more than once in an interval of 60 hours. The Wobbe-number is an hourly averaged value.
- 2. Exceeding the upper bound is allowed if they are within a normal distribution with a standard deviation of maximum 0.1 MJ/m³(n).
- 3. A different injection temperature is acceptable if the producer proves that the pipe materials used are resistant against that different temperature and if the gas in the service line sufficiently warms or cools such that the gas temperature at the entrance valve of the DSO-network is between 5 and 20 °C. The calculation can be done using the method described in the KIWA-rapport 'Eisen aan Groen Gas invoedtemperatuur' of 2 August 2012.

MR Gas Quality Injection details (2)

4. For gasses containing at least 99 mol% CH4 + CO2 + N2 + O2 and more than 6 mol% CO2 the following applies:

CO2-content shall be less than the minimum of

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10.32 - 0.72 * N2-content - 0.87 * O2-content,
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and

10.56 - 0.746 * N2-content - 1,01 * O2-content,

Here the content is expressed in in mol%. In RTL-pipelines connected to transit points the CO2-content of the gas shall be maximum 3 mol%. At injection in in connections that distribute the gas by parts of the DSO-network in which water can possibly enter into the gas, the CO2-content of the gas shall be maximum 3 mol%.

- 5. THT may be replaced by a component with a similar alarming property.
- 6. The gas shall not contain components that cause the odor of the gas after odorization not sufficient notable or less correctly characteristic.

Nb: any confusing or vague wording is not necessarily due to translation



- The MR GasQ needs additional technical rules (how)
 - For practical purposes covered by a model agreement between DSO and the biomethane producer ('Beheersprotocol')
 - Protocol could be a good basis for new Dutch standard or 'NTA'
 - Balancing is not explicitly addressed, not yet an issue.
 - Current practice: first in, first served
 - DSO's are capable to solve this