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Technical Rule – Code of Practice

DVGW G 265-1 (A) March 2014

**Plants for the Upgrading and Injection of Biogas into Gas Supply
Grids; Part 1: Design, Manufacture, Construction, Testing and
Commissioning**

Anlagen für die Aufbereitung und Einspeisung von Biogas in
Gasversorgungsnetze; Teil 1: Planung, Fertigung, Errichtung,
Prüfung und Inbetriebnahme

GAS

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Plants for the Upgrading and Injection of Biogas into Gas Supply Grids; Part 1: Design, Manufacture, Construction, Testing and Commissioning

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Foreword

This Code of Practice has been elaborated by the “Biogas Systems Engineering” project group within the Technical Committees on “Plants and Systems” and “Biogas”. It serves as a basis for designing, manufacturing, constructing, testing and commissioning plants for upgrading biogas to natural gas quality, plants for injecting these gases into gas transmission and distribution systems, and plants for the refeeding of gas into the upstream gas supply network.

Having proved its worth in the field for almost five years in terms of designing, manufacturing, installing, testing and commissioning biogas upgrading and injection plants, DVGW Test Specification VP 265-1 has been thoroughly revised, extended and transposed into this Code of Practice G 265-1.

The objective of the review was to incorporate into this Code of Practice the practical experience that had been gained in the course of applying this test specification in the field. Moreover, this Code of Practice has been updated to reflect amended laws (the Energy Industry Act [*EnWG*] and the Federal Immission Control Act, [*BImSchG*]) and ordinances (e. g. the Gas Network Access Ordinance [*GasNZV*]; the High Pressure Gas Pipeline Ordinance [*GasHDrLtgV*] and the 4th German Federal Immission Protection Ordinance [*BImSchV*]) as well as the provisions and rules of the Institutions for Statutory Accident Insurance and Prevention, and the general technical rules.

Moreover, the scope of application of this Code of Practice has been expanded to cover refeeding plants. Likewise, biogases produced from other than fermentation sources but whose material constituents and technical gas characteristics comply with the requirements of DVGW Codes of Practice G 260 and G 262 have also been incorporated into the scope of application.

This DVGW Code of Practice provides a summary overview of the minimum requirements on the technical safety of plants and components required for the utilisation of biogas, from upgrading plants through to compressor stations; pressure control, conditioning and measuring devices and, finally, the injection into the gas supply network as added or substitute gas. At the same time, one focus was on the indispensable coordination between the – generally different – plant operators.

This Code of Practice supersedes DVGW Test Specification VP 265-1.

Amendments

The following amendments have been made vis-à-vis DVGW Test Specification VP 265-1:2008-04:

- a) The scope of application has been extended insofar as biogas production is no longer confined to fermentation processes, with the intention being to include e. g. methane synthetically produced from hydrogen. Installations for feeding gas back into upstream gas supply networks have also been included.

- b) The title of the Code of Practice now also covers gases produced by other than fermentation processes.
- c) In the title as well as throughout the entire document, the terms “natural gas network” and “gas network” have been replaced by the term “gas supply network” with the intention being to reflect the terminology of the Energy Industry Act (*Energiewirtschaftsgesetz, EnWG*).
- d) The definition of what constitutes an expert has been amended to reflect changes in the current legal situation.
- e) The definition of the term “biogas” has been deleted, as a definition is provided by the *EnWG*.
- f) The membrane process has been included as a new treatment method.
- g) The term “conditioning plant” has been deleted as a term in its own right since in accordance with the Gas Network Access Ordinance (*GasNZV*), conditioning plants form part of biogas injection plants; the pertinent requirements now apply to biogas injection plants.
- h) The term “plant” has been newly introduced as an umbrella term covering biogas upgrading plants, biogas injection plants and refeeding plants so as to specify the joint requirements on these plants under this general term.
- i) The functional requirements that apply to compressor stations have been written up extensively; a new Annex C has been added to aid in the specification of compressor stations.
- j) An informative Annex A now addresses the potential need for coordination between plant operators.
- k) The examples on zone classification that had been moved to Annex B have been revised and amended. It is intended to include these examples into the *BG RCI* (Institution for Statutory Accident Insurance and Prevention, Raw Materials and Chemical Industry) collection of examples of explosion protection rules.
- l) A normative Annex D has been added that describes a comprehensive test schedule for plant testing.
- m) A new Annex E defines the test ratings.
- n) Additionally, the entire document has been extensively revised.

Earlier editions

DVGW VP 265-1:2008-04