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Biogas and Natural Gas Grids Problems and Regulations for the Grid Access

Dr. Gerrit Volk

Head of Section "Distribution Network Access (Gas), Technical Policy Issues, Quality of Supply" German Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railway

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Contents

Connection





1. Obligation to provide connection to the grid

- Priority of biogas over natural gas → refusal only because of technical-physical non-feasibility or economic unacceptability
 - <u>But</u>: the System Operator has to increase technicalphysical capacity (e.g. reverse feed-in)
 - <u>Problem</u>: assessment factor for economic reasonableness
 - <u>Problem</u>: consideration of an alternative, from a macroeconomic viewpoint more favourable connection variant?



2. Availability of the connection, section 33 para 2 GasNZV

- Obligation of the System Operator to ensure 96 percent year-round availability of the connection
 - > contingency insurance not sufficient
 - > 100 percent of the costs borne by the System Operator
- administrative offence if availability of connection is not ensured in accordance with section 33 para 2 GasNZV, section 51 para GasNZV



3. Property, section 33 para 1 GasNZV

The connection facilities remain the property of the System Operator

4. Obligation to bear costs, section 33 para 1 GasNZV

- a) Costs of operation and maintenance \rightarrow System Operator
- b) Costs of increasing capacity \rightarrow System Operator



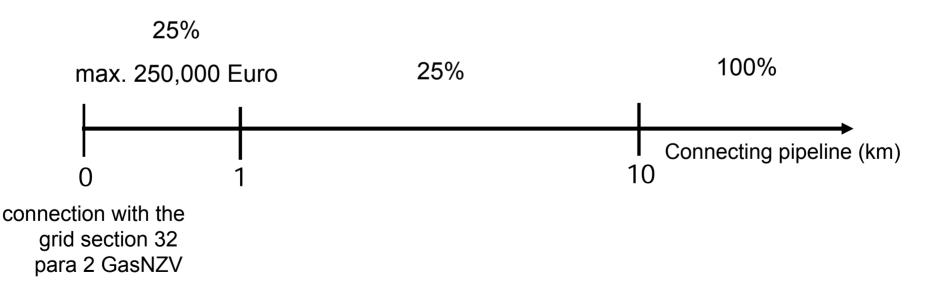
5. Costs for planning and installation

- Investments shared in a ratio of 75 (System Operator) to 25 (connecting party)
 - > <u>Exception</u>: connection line beyond 10 km \rightarrow 100 % connecting party
- Maximum costs borne by connecting party: € 250,000
 - ➤ Exception: connection lines beyond 1 km → the connecting party have to pay 25 percent of the costs of the connection line after the first km irrespective of the cost cap



6. Availability of the connection

Allocation of costs for the connection with the grid section 33 para 1 GasNZV. Connecting party viewpoint:





- 7. Collateral security
 - Standard collateral security not permissible

 → Exception: suspicion due to credit check or other factors
 → But: security provided only for the connecting party's portion of the costs (25 per cent of the connection's planning and installation costs)



Contents

Connection





I. Feed-in

1. Participants:

Feed-in operator (frequently connecting party or shipper) and System Operator

2. Obligations:

a) For the feed-in operator, section 36 para 1 GasNZV

- Compliance with requirements of the DVGW worksheets G 260 and G 262 → <u>Exception</u>: pressure
- max. lack of methane 0.5 percent until 30.04.2012 and afterwards 0.2 percent → proof, confirmed by an authorised expert, to be presented to the System Operator



- <u>Problem</u>: calorific value
 - > Solely DVGW worksheets G 260/262 applicable
 - <u>Exception</u>: compliance with DVGW worksheet G 685 technically not feasible (e.g.: permitted LPG blending limits)
 - ▹ Impact:

 \rightarrow More stringent requirements on the calorific value of the biogas

 \rightarrow No claim for refund of the additional costs caused by an upgraded conditioning

Reason: conditioning not a measure to ensure compliance with the requirements in G 685



II. Transport

- 1. Participants: shippers (agents, suppliers or final consumers) and System Operators
- 2. Obligation to provide access to the grid, section 34 GasNZV
 - Priority of biogas over natural gas
 - Refusal because of a lack of grid interoperability, technicalphysical non-feasibility or economic unacceptability



- 3. Blanket fee for avoided grid costs of 0.007 Euros per kWh of biogas fed in for period of ten years after commissioning of connection, section 20a GasNEV
- 4. No entry fee in the case of biogas feed into gas distribution networks, section 18 para 1 GasNEV, and gas transmission networks, section 19 para 1 GasNEV



Thank you very much for your attention!



Balancing

1. Participants

Balancing group manager and balancing group TSO (existing balancing groups correspond to the existing market areas)

2. Extended balancing

- Signing a balancing group agreement in which the balancing group manager feeds in biogas only
- Special features: balancing period of 12 months plus flexibility of 25%



Allocation of costs

- Contribution to the System Operators feed-in costs, section 20b GasNEV (costs for connection, feed-in and transport according to Part 11a GasNZV and section 20a GasNEV)
- Contribution to cover all grids in the market area
- Details settled in Annex 4 of the Cooperation Agreement (KoV III)