

METHODOLOGY
DETERMINING PRICES FOR ACCESS AND TRANSMISSION OF NATURAL GAS THROUGH
THE GAS TRANSMISSION NETWORKS OWNED BY BULGARTRANGAZ EAD

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Chapter one
GENERAL PROVISIONS

Article 1. (1) This methodology shall lay out the terms and conditions for price setting for access and natural gas transmission through the gas transmission system owned by Bulgartransgaz EAD, including:

1. model for price setting by entry points/zones and exit points/zones and by services provided;
2. tariffs and tariff structures setting;
3. way of price setting by applying the "revenue cap" method;
4. basic requirements and elements for pricing;
5. cost allocation mechanism (respectively allowed revenue) by entry points/zones and exit points/zones and by services provided;
6. the procedure for prices setting and alteration.

(2) The Methodology shall be applied to set prices for access and natural gas transmission through the gas transmission system owned by the operator Bulgartransgaz EAD.

Article 2. (1) The purpose of the Methodology is to ensure the separate pricing for the entry points and the exit points as well as for the established price zones in compliance with the following principles:

1. transparency in the setting of prices;
2. applying prices in a non-discriminatory manner to users of the respective networks;
3. taking into account the need for integrity of the gas transmission system and its upgrade;
4. reflecting the efficient costs required to provide natural gas transmission services;
5. integrating economically substantiated return on the existing assets and new investments.

(2) The costs allocation mechanism (respectively the approved required annual revenues) by entry points/zones and exit points/zones shall ensure in a non-discriminatory manner the setting of price reflecting the costs and facilitating the efficient natural gas trade and the efficient use of the gas transmission system, whilst preventing the cross-subsidation between network users.

Article 3. The prices for access and natural gas transmission through the gas transmission networks shall be formed in compliance with the principles of price regulation laid down in the Energy Act, Regulation 460/2017 and the applicable EU legislation.

Chapter two

PRICE SETTING MODEL

Article 4. (1) The prices for access and transmission through the gas transmission networks shall be determined in accordance with the entry-exit model for access to gas transmission networks.

(2) Pricing shall take into account the entry and exit points and the price zones, defined by the operator.

(3) The prices for each entry and each exit point, as well as for each price zone, shall be determined by the operator under the terms and conditions set out in this Methodology.

(4) When applying the entry-exit model, separate and independent from each other contracts for the use of entry and exit capacity of the gas transmission system can be concluded.

Article 5. (1) On a proposal from the Operator, the Energy and Water Regulatory Commission (hereinafter "the Commission") approves the entry points, the exit points and the pricing zones depending on the specific characteristics of the gas transmission system.

(2) The operator shall publish on its Internet site the specified under para. 1 entry points, exit points and pricing zones.

(3) When changing the entry points, exit points and pricing zones approved for the gas transmission system, the operator shall be obliged to publish the amendment at least 1 month before its entering into force. Any modification of the entry points, exit points and pricing zones shall apply as of the beginning of a pricing period.

Chapter three

REQUIRED ANNUAL REVENUE

Section I. Main principles

Article 6. (1) The operator's approved required annual revenue for the transmission system shall cover operator's costs that are required to secure:

1. Natural gas transmission services;
2. Safe and reliable management and operation of the transmission infrastructure;
3. Maintenance and development of the gas transmission system;
4. Management, distribution and exchange of information for the purposes of providing efficient, transparent and reliable operation of the gas transmission system.
5. Natural gas transmission activity according to Art.170, para. 2 of the Energy Act.

(2) The approved required revenues for each year of the respective regulatory period shall be set by the operator based on the method "revenue cap regulation".

(3) The regulatory period shall be from 2 to 5 years, set with a decision of the Commission on a proposal from the Operator.

Section II. Required revenue setting

Article 7. (1) The required annual revenue for each year of the regulatory period shall be determined as follows:

$$\mathbf{RAR}_t = \mathbf{BRAR}_t + \mathbf{C}_t + \mathbf{A}_t$$

Where:

RAR_t - approved required annual revenue for the respective year of the regulatory period;

BRAR_t - base required annual revenue for the respective year of the regulatory period;

C_t - directly transferable costs for the respective year of the regulatory period (according to Art. 17);

A_t - annual adjustment for the respective year of the regulatory period reflecting the regulatory account release (according to Art. 16a)

t - respective year of the considered period.

(2) The base required annual revenues shall be determined in accordance with the following formula:

$$\mathbf{BRAR}_t = \mathbf{BRAR}_{t-1} (\mathbf{1} + \mathbf{I}_{t-1})(\mathbf{1}-\mathbf{X})$$

where:

I_{t-1} - is the forecast inflation for the year preceding the year t, measured by the Consumer Price Index;

X - smoothing factor of the base required annual revenues for the regulatory period.

(3) The factor X is obtained by solving the following equation:

$$\sum_{t=1}^n \frac{\mathbf{ACA}_t}{(\mathbf{1} + \mathbf{RR})^t} = \sum_{t=1}^n \frac{\mathbf{BRAR}_0(\mathbf{1} - \mathbf{X})^t}{(\mathbf{1} + \mathbf{RR})^t}$$

where:

ACA_t – annual calculated amount of operating costs, depreciation and return on the assets for year t, necessary for the transmission of natural gas, determined on the basis of economically substantiated costs and return on the capital, based on the Operator's Business plan as approved by the Commission according to the formula:

$$\mathbf{ACA}_t = \mathbf{P}_t + \mathbf{A}_t + \mathbf{RB}_t * \mathbf{RR}$$

where:

P_t - Operating controllable costs to set the base required annual revenues for the respective year (in line with article 9);

A_t - Calculated annual depreciation to set the base required annual revenues for the

respective year (in line with article 12);

RB_t – calculated return basis for the respective year (according to article 13);

RR - rate of return of company's capital (according to article 14) approved by the Commission for the regulatory period;

n - number of years in the regulatory period;

BRAR₀ - estimated base required annual revenues for the base year (t=0), determined in accordance with the accountable and the approved forecast data for the base year presented in the Operator's Business Plan approved by the Commission according to the formula:

$$\mathbf{BRAR_0 = ACA_0 = P_0 + A_0 + RB_0 * RR}$$

Article 8. The forecast costs required for the activity transmission through the gas transmission network/system are the economically justified costs determined on the basis of the Operator's Business Plan approved by the Commission.

Article 9. (1) The operating controllable costs for the respective year of the regulatory period are determined according to the following formula.

$$\mathbf{P_t = P_{t-1} \cdot (1 - E),}$$

where:

P_{t-1} - operating controllable costs for the previous year from the regulatory period.

E - factor of efficiency improvement, determined by a Commission's decision prior to the start of the regulatory period to be applied for each pricing period of the regulatory period;

(2) The initial level of the operating controllable costs shall be determined on the basis of the forecast average amount of the annual operating costs necessary for the natural gas transmission activity for the regulatory period, determined on the basis of the Operator's Business Plan approved by the Commission.

Article 10. (1) Operating costs are split in two main groups: conditionally fixed operating costs and variable operating costs depending on their connection with the the transported natural gas quantities. The costs in each of the groups shall be also specified by economic elements.

(2) The conditionally fixed operating costs include the costs for the natural gas transmission activity through the transmission system which do not depend directly on the forecast transported natural gas quantities, including the costs for operation and maintenance, repairs and others.

(3) Variable costs for the natural gas transmission activity depend on the transported natural gas quantities through the gas transmission system.

Article 11. The costs for the activity do not include costs not related to the natural gas transmission activity through the transmission system, financial costs, costs of occasional and/or extraordinary nature, as well as:

1. costs for tax on the profit;
2. costs for future periods;
3. costs for impairment losses;
4. current costs for charged provisions in the meaning of Art. 38 of the Corporate Income Tax Act;

5. current costs or obligations for reducing the book value of the goods and inventories;
6. costs for penalties and/or fines imposed by state or municipal authorities;
7. costs for interests for late payment, penalties and other payments related to default contracts;
8. costs for donations and paid unused leaves from previous period;
9. the costs under article 204 of the Corporate Income Tax Act as well as the costs for tax charged on them under article 216 of the Corporate Income Tax Act.
10. costs that lack any technical and economic rationale or any other rationale and evidence by the licensee;
11. costs for which the Commission justifiably accepts that are not in users' interest or costs not required for the performance of the licensing activity.
12. legal costs other than the state taxes related to cases on collecting receivables.

Article 12. (1) Depreciation costs to set the required annual revenues for each year of the regulatory period shall include the forecast amount of the annual depreciation of the existing and the new assets acquired during the respective year, serving the activity of transmission of natural gas and determined on the basis of the Operator's Business Plan approved by the Commission.

(2) For regulatory purposes the depreciation costs shall be calculated on the basis of substantiated economical and technical useful live of assets according to Annex No.1 enclosed to this Methodology by applying a linear depreciation method.

(3) The depreciation costs shall be charged after the date of the respective asset's entering into operation.

Article 13. (1) The base of return is the basis upon which the operator shall receive return on the invested capital.

(2) The base of return to set the required revenues for each year of the regulatory period shall include the assets acquired for valuable consideration by the operator, serving the activity of natural gas transmission through the transmission system and shall be determined on the basis of Operator's Business Plan approved by the Commission. The base of return shall be calculated according to the following formula:

$$\mathbf{RB}_t = \mathbf{A}_{t-1} + \mathbf{Inv}_t - \mathbf{Am}_t - \mathbf{F}_t + \mathbf{WC}_t$$

where:

RB_t – the base of return setting the required revenues for year t of the regulatory period;

A_{t-1} – the forecast balance value of the assets being used and having useful life at the end of the previous year;

Inv_t – investment component to set the base return for the respective year of the regulatory period, determined as a sum of the forecast investments for the respective year of the regulatory period, necessary for the activity of natural gas transmission and in accordance with the approved Operator's Business Plan;

Am_t – depreciation component to set the required revenue for the respective year of the regulatory period, determined as sum of the forecast annual depreciation of the existing assets and the new investments planned for the respective year of the regulatory period, required for the activity of natural gas transmission and in accordance with the Operator's Business Plan approved by the Commission.

F_t – the forecast balance value of the grant financing of assets at the end of the respective year of the regulatory period, including at the expense of the connection fee, grants, donations,

aid etc. in accordance with the Operator's Business Plan approved by the Commission.

WC_t - required working capital to set the required revenues for the respective year of the regulatory period, representing the required capital amount used in the process of financing operator's annual activities; the required working capital shall be formed as 1/8 of the amount of its annual operating monetary costs for the respective year of the regulatory period for the transmission activity on the basis of the Operator's Business Plan approved by the Commission, excluding depreciation and impairment costs of bad debts;

(3) The value of the fixed assets/forecast investments related to the activity of the natural gas transmission through the transmission system shall not include:

1. assets not related to the activity of natural gas transmission (including holiday homes and other social objects) and/or rented, decommissioned;
2. assets with residual value which shall be decommissioned in the first year of the regulatory period;
3. assets in the form of construction works in progress.

Article 14. (1) The rate of capital return is equal to the weighted average cost of capital. The weighted average cost of capital is the rate of the attracted capital and the equity, weighted according to the share of each of these financial sources.

(2) The rate of capital return shall be determined as a real rate before taxation according to the following formula:

$$RR = SH_E * \left(\frac{RR_E}{1 - \frac{CT}{100}} \right) + SH_{AC} * RR_{AC}$$

Where:

RR – rate of return of the capital before taxation

SH_E - share of equity in the entire capital;

RR_E –rate of return of equity after taxation;

CT - corporate tax under the Corporate Income Tax Act, %;

SH_{AC} - attracted capital share in the entire capital;

RR_{AC} –rate of return of the attracted capital.

(3) The return rate of the capital shall be calculated for the entire company's capital.

Article 15. (1) Equity capital does not include the financial result for the current period (profit or loss) of the Company's activity.

(2) The Commission shall approve the rate of return of the equity capital according to article 18, taking into account factors such as: comparisons with other companies with similar risk level, access to funding, current financial and economic conditions in the country, alternative capital price, corporate specific risk, corporate financial policy and capital structure, corporate financial history.

(3) The Commission shall approve a suitable target capital structure for the regulatory period.

Article 16. (1) The attracted capital shall include reimbursable loans and liabilities under financial lease contracts.

(2) The Commission may determine set the maximum market price of the attracted capital on the basis of statistical data on its market values and/or officially published forecast information.

(3) In calculating the average cost of the attracted capital, the Commission takes into account the annual interest rates of existing and planned loan agreements and the relative weight of the respective loans in the total amount of the attracted capital.

(4) In cases where financial lease contract has been signed and no constant interest rate has been specified, the Commission shall determine an average interest rate for the whole period of the contract.

Article 16a. (1) The Operator adjusts the required annual revenues with amounts received as a result of an inconsistency between the actually received annual revenues and the approved required annual revenues from previous price periods. For this purpose, the Operator maintains a special regulatory account, where the annual differences between actual revenue received and the revised annual revenue required are annually accumulated.

(2) The revised annual revenue required is determined when recalculating the approved required annual revenue for the respective price period on the basis of the actual inflation and the actual directly transferable costs.

(3) The balance accumulated in the regulatory account shall be released in the end of the regulatory period and shall be allocated equally on the required revenues for each year as of the next regulatory period.

(4) Part of the accumulated balance can be released during the regulatory period and the released part cannot exceed 10% of the revised annual revenue required for the year t . In such case the Operator can adjust the approved annual revenue required and respectively the prices for access and transmission in the year $t+2$.

(5) For price regulation purposes the Commission reviews the implementation of the investments in the end of the regulatory period. If the amount of the actually performed investments is lower than the forecast investments and this difference is due to an effective investment policy, the Commission may oblige the Operator to reduce the annual revenues required for the next regulatory period with the amount reflecting the excess of depreciation and return.

Article 17. The directly transferable costs for the respective year of the regulatory period shall be determined each year and shall include the following elements:

1. Costs arising from the fulfilment of the public service obligations, including those related to security of supply and performance of the operator's obligations arising from the Emergency Action Plan approved by ordinance of the minister of energy pursuant to Regulation (EU) 994/2010 of the European Parliament and of the Council of 20 October 2010 concerning measures to safeguard security of gas supply and repealing Council Directive 2004/67/EC;

2. Share of fees owed by the operator for its participation in the European Network of the Transmission System Operators for Gas, as well as other charges due for the respective year;

3. Excise duty over the fuel gas;

4. License fees payable by the operator under the Energy Act;

5. Technological costs and costs for storage of technological gas for the transmission needs;

6. Other costs as proposed by the operator which the Commission accepts to be directly transferable costs in its nature.

Section III. Approval of required annual revenues and pricing elements

Article 17A. Prior to the start of each regulatory period, the Operator or the Commission depending on the Commissions' decision shall carry out periodic consultations in compliance with the requirements of Art. 26 of Regulation 460/2017 of the EU.

Article 18. (1) Prior to the start of each regulatory period, on Operator's proposal, the Commission by a decision approves:

1. The required annual revenue and the required base revenue for the transmission activity for the first year of the regulatory period;
2. The return base by years for the regulatory period;
3. The rate of return of the capital for the regulatory period;
4. Forecast amount of costs under article 7, para. 1 for the first year of the regulatory period, assessing their economic soundness;
5. Efficiency improvement factor, which shall be applied for the forecast operating costs;
6. Smoothing factor of the required base revenues for the regulatory period;

(2) The proposal under paragraph 1 shall be prepared and submitted by the operator with an application to the Commission within 7 months before the expiry of the regulatory period. To the application the operator shall enclose:

1. Written rationale and evidence for the particular costs as well as their relation to the performance of the natural gas transmission activity;
2. Technical and economic and possibly other necessary rationale concerning the investments which will be made during the regulatory period by years, fields and groups of objects, excluding investments in the creation or acquisition of assets in the meaning of article 13, para. 3 of the Methodology.

(3) The Commission may request from the operator to provide a detailed report and analysis of the performance of investments and the achieved results in relation to natural gas quality and customers' service.

(4) The Commission with a decision under para. 1 and in line with the results of the conducted consultation under Art. 17A, approves the regulatory period:

1. The distribution ratio of the necessary revenues from price for access and from price for natural gas transmission;
2. The distribution ratio of the necessary revenues from price for access by entry and exit points;

Article 18A. For each price period, by 1 March the operator shall submit to the Commission a proposal for:

1. entry and exit points/zones for which prices for access and transmission are determined;
2. factors for determining the prices for access for booking short-term capacity products on the basis of the price for a reference firm capacity;
3. seasonal multipliers for determining prices for booking short-term capacity products;
4. a discount when determining prices for access for booking interruptible capacity products;
5. a discount when determining prices for access for entry/exit points to/from natural gas storage facilities.
6. a discount when determining prices for access for entry points from LNG facilities, and

at entry points from and exit points to infrastructure developed with the purpose of ending the isolation of Member States in respect of their gas transmission systems.

(2) In accordance with Art. 28 of EU Regulation 460/2017, the Commission shall carry out consultations taking a motivated decision within 45 days as of the submission of the proposal by the operator.

Chapter Four

SETTING A TARIFF STRUCTURE OF ACCESS AND NATURAL GAS TRANSMISSION PRICES

Article 21. (1) The tariff structure of prices for access and natural gas transmission through the transmission system shall be determined by the Operator.

(2) In order to form the prices for access and transmission through the transmission system, the approved required annual revenues shall be allocated by pricing components of the tariff structure, determined in line with article 21.

Article 22. (1) Prices of the tariff structure may include:

1. Access price which is determined in BGN per unit capacity for the period of granting access, expressed in unit of measurement BGN/MWh/day/period of granting access;

2. Transmission price determined in BGN per energy unit of natural gas, expressed in unit of measurement BGN/MWh.

(2) The access price shall be set for the right of network user to use network capacity at the respective entry points, exit points and/or zones under conditions, amount and time limits laid down in an agreement concluded with the Operator. The access price is differentiated by entry and exit points and pricing zones depending on the offered access services at these points/zones.

(3) The transmission price shall be set for natural gas quantities transported under the terms and conditions of the concluded Transport Contract. The transmission price is the same for all entry and exit points and pricing zones.

Article 23. (1) Access prices shall be calculated by types of services for providing capacity for each entry point/zone and exit point/zone of the respective gas transmission network or the transmission system in compliance with the cost allocation mechanism under Section 5 of the Methodology and may include:

1. Access prices in case of reference firm annual capacity;

2. Access prices in case of short-term firm capacity products: within-day, day ahead, , month and quarter;

3. Access prices in case of interruptible capacity.

(2) The access prices shall be determined on the basis of the approved required annual revenues, reduced by approved required annual revenues, allocated to set the transmission price.

(3) Access prices in case of interruptible capacity including access prices in case of virtual reverse capacity on a commercial basis (blackhaul) shall be determined by taking into account the probability of interruption.

(4) Access price shall be calculated on the basis of provided capacity at the entry points/zones and exit points/zones and by types of offered services in line with a contract concluded with the Operator.

Article 24. (1) The Operator shall offer the following natural gas transmission services for the respective entry and exit points/pricing zones of the gas transmission system:

1. Short- or long-term transmission services based on contracted firm capacity;
2. Short- or long-term transmission services based on contracted interruptible capacity (physical or virtual);

(2) The types of natural gas transmission services offered by the Operator are published on the Operator's webpage.

Article 25. (1) The transmission price shall be determined on the basis of the approved required annual revenues allocated to set the transmission price.

(2) The required annual revenues collected from the transmission price may be determined as part of the total required annual revenues and may include a component determined based on the variable costs for carrying out the activity of natural gas transmission through the transmission system.

(3) Transmission price may include costs arising from obligations imposed by society. These costs shall be indicated as a separate component in the price.

(4) If users do not use any specific service for the respective entry and exit points/zones of the gas transmission system and the costs linked to such a service are individual for the specific users via separate price component, they do not pay the component in the transmission price linked with the respective service.

(5) Transmission price may include a balancing neutrality component determined in line with the Daily Imbalance and Neutrality Charge Calculation Methodology. The balancing neutrality component may be positive or negative.

Article 26. The prices for access and transmission through the gas transmission system do not include imbalance charges which shall be charged separately according to a methodology approved by the Commission.

Article 27. (1) Access and transmission price shall be set by the Operator for each pricing period of the regulatory period based on the required revenues approved by the Commission.

(2) The determined prices exclude VAT, which shall be charged under the current legislation.

Chapter Five

COST ALLOCATION MECHANISM, RESPECTIVELY OF THE REQUIRED REVENUES AT ENTRY AND EXIT POINTS/ZONES

Article 28. The cost allocation, respectively the required annual revenues at entry and exit points/zones shall be done according to the rules, set out in this chapter and Appendix N^o 2 of the Methodology.

Article 29. (1) For the purpose of allocation of the required annual revenues, the gas transmission system is divided into gas pipelines sections, connecting the entry points, exit points and the determined system key points (peaks). The peaks might be stations, connections between gas pipelines with various diameters, natural gas storages. Sections are delimited by such peaks, which have similar technical characteristics - diameters, pressure and operating regimes.

(2) The sections should be chosen in such a way as to present the approximate actual flow of gas flows and enable costs evaluation from the entry to the exit points, including pipes diameters, lengths, compressors stations, etc.

Article 30. (1) The required annual revenues shall be split into revenues collected by an access price and revenues collected by a transmission price.

(2) The transmission price is the same for all entry and exit points and price zones, and

shall be calculated by dividing the required annual revenues allocated to this price into the amount from the estimated annual quantities of natural gas at entry and exit points of the gas transmission system.

(3) The required annual revenues allocated for collection through price for access shall be allocated by the entry points/zones and the exit points/zones and by various services for providing capacity, as described in para 4-6.

(4) The required annual revenues collected by access price shall be allocated by gas pipeline sections based on replacement costs of individual sections.

(5) The required annual revenues allocated for each gas pipeline section under para 4 shall be divided into the technical capacity of the respective section. The result reflects the unit costs related to the respective gas pipeline section, i.e. the cost of transporting one MWh gas through this section.

(6) The path of unit costs is presented under the form of a unit cost matrix. This matrix has as many lines as the exit points are and columns reflecting the entry points of the transmission system. The values in this matrix are the sum of the unit individual costs for the various sections of the transmission system used to transport one MWh gas from the respective entry point/zone to the respective exit point/zone.

Article 31. (1) The access prices for referent firm annual capacity for the respective entry points/zones and exit points/zones are determined in such a way as to reflect the values of the matrix of the unit costs to a maximum degree.

(2) The access prices for short-term firm capacity for the respective entry points/zones and exit points/zones are determined on the basis of the resulting prices for access for firm annual capacity allocated to the periods of the specific service, multiplied by a factor, determined in line with Art. 18A.

(3) The operator can set different access prices in case of short-term capacity in various periods of the year. The resulting access prices for short-term capacity shall therefore be multiplied by seasonal factors for the various annual periods in line with Art. 18A.

(4) The access prices for interruptible services for the respective entry points/zones and exit points/zones shall be determined on the basis of the resulting access prices for firm capacity,.

(5) The prices of the different types of services involving provision of capacity at the respective entry and exit points representing exit/entry from/to natural gas storage facilities, prices for access for entry points from LNG facilities, and at entry points from and exit points to infrastructure developed with the purpose of ending the isolation of Member States in respect of their gas transmission systems, are determined on the basis of the resulting access prices for firm capacity, multiplied by a in line with Art. 18A.

(6) In the price setting process, the following conditions should be taken into account:

1. covering the required annual revenues by the access price;
2. avoiding prices with zero level;
3. the set coverage ratio of the approved required annual revenues from the price for access from entry points/zones and exit points/zones.

Chapter Six

PROCEDURE ON SETTING AND MODIFYING THE PRICES FOR NATURAL GAS ACCESS AND TRANSMISSION THROUGH THE GAS TRANSMISSION NETWORKS OWNED BY BULGARTRANGAZ EAD

Section I

Setting and modification of the prices for natural gas access and transmission through the gas transmission networks

Article 32. (1) Prior to the beginning of a new regulatory period, the operator shall make a study on the cost of the transmission and access services through the respective transmission network or for the transmission system by:

1. Developing a Business Plan for the natural gas transmission activities submitted for approval by the Commission no later than 15 March in the year when the previous regulatory period expires.

2. Submitting the application according to Art.18, para 1 of this Methodology; the approved required revenues for the first year of the regulatory period shall be calculated and allocated by types of services and entry points/zones and exit points/zones of the gas transmission system in accordance with this Methodology.

(2) The Commission shall examine the application under para 1, item 1 under Art. 4 of Ordinance No. 3/2013 on licensing activities in the energy sector.

(3) The Commission shall adopt a decision under para 1, item 1 within 45 days of the application's submission to the Commission or as to the removal of the inconsistencies, if any. When adopting a decision, the Commission makes a compliance assessment with the last approved Ten-Year Network Development Plan of the Operator.

(4) Within the application, according to para 1, item 2, the operator shall submit:

1. Data about the basis year, estimate data by pricing years of the regulatory period (investments, costs, quantities, etc.) in accordance with the prepared business plan;

2. Reporting information for all revenues, costs, assets and liabilities for the last reporting year. The reporting information should be developed in accordance with the requirements of Art. 37 of the EA for separate reporting between regulated and non-regulated activities;

3. Annual financial report with appendices thereto, prepared in accordance with the Accounting Act and the applicable accounting standards.

4. Justification and documents, according to Art. 18, para 3;

5. Technical and economic data, including monthly reports on sales in the basis year, as well as any other information related to the required annual revenues proposed for approval;

6. Reports prepared in accordance with the requirements of the Commission for providing information. The reports shall be presented in paper and in digital format;

7. Additional information, further to the binding information requested by the reports, at the discretion of the operator;

8. Additional written information, requested by the Commission.

Article 34. (1) For each pricing period of the regulatory period, the operator determines the prices for access and transmission of natural gas by entry points/zones and exit points/zones on the basis of the approved required annual revenues for this pricing period.

(2) The prices under para 1 shall be determined via decision issued by the operator within a

period no later than 30 days before the annual yearly capacity auction in line with the ENTSOG calendar.

Article 35. (1) The operator shall publish in the media and on its website no later than 7 days before the beginning of the respective pricing period the decision on adoption of natural gas access and transmission prices by entry/zones and exit points/zones of the transmission system.

(2) Within the deadline laid down in para 1 the operator shall send to the Commission a copy of the adopted decision and the following information: the prices set by him according to the present Methodology; a description of the approach and the specific calculations used to set the price under this Methodology.

Article 36. The operator shall update the information on its website regarding the applicable access and transmission prices by types of services and entry and exit points/pricing zones, as well as the methodologies related to setting up, calculation and applying natural gas access and transmission prices.

Section II.

Applying the access and transmission prices

Article 37. The prices for access and transmission through the gas transmission system set in accordance with the rules of this Methodology, shall apply as of the date laid down in the decision under Art.34, para. 2.

Article 38. (1) The mode and terms of payment of the natural gas transmission services through the transmission system are determined by the operator in the Transport Contract.

(2) The network users shall pay the value of the natural gas transmission service, calculated by:

1. price for access at entry points/zones;
2. price for access at exit points/zones, and
3. transmission price depending on the transported quantities of natural gas at the entry and exit points/zones.

(3) The access price is charged on the basis of the capacity provided to the user at entry points/zones and at exit points/zones and depending on the services offered at these points/zones.

(4) The transmission price shall be charged on the basis of the natural gas quantities metered by facilities for commercial metering and allocated at the entry and exit points/zones of the gas transmission system.

Chapter Seven

MONITORING AND CONTROL

Article 39. When exercising its pricing regulation powers, the Commission shall perform ongoing supervision, monitoring and control of the operator's natural gas transmission activities in accordance with the Energy Act, Ordinance No 2 of 2013 for regulation of natural gas prices and the applicable European legislation.

Article 40. (1) At any time, by its decision the Commission may, in line with the terms and conditions of the effective legislation, provide instructions to the operator on the application of this Methodology, setting a deadline for their implementation. The deadline should be sufficient to enable the operator to perform the necessary actions.

(2) The operator shall be obliged to observe the instructions or the mandatory directions in

due time.

SUPPLEMENTARY PROVISION

§ 1. Within the meaning of this Methodology:

1. **Gas Transmission network** is a system of high-pressure gas pipelines and auxiliary facilities with uniform technological mode of operation for natural gas transmission to the exit of a gas metering station or gas regulation station.

2. **National Gas Transmission Network (NGTN)** is a gas transmission network of main function natural gas transmission to customers in Bulgaria connected thereto and also to interconnection points. The NGTN is owned by Bulgartransgaz EAD and used for performing transmission services;

3. **Gas Transmission Network for Transit Transmission (GTNTT)** is a gas transmission network the main function of which is natural gas transit transmission, it is also used for natural gas transmission to customers in Bulgaria connected to the network or to interconnection points on the territory of Bulgaria. The GTNTT is owned by Bulgartransgaz EAD and used for performing transmission services;

3.1 **Gas transmission system/Transmission system** is a system integrating the national gas transmission network and the gas transmission network for transit transmission, considered as a single input-output system.

4. **Entry point** is a physical point determined by the operator according to Art. 5, para 1, consisting of one or several points of natural gas acceptance by the gas transmission operator;

5. **Exit point** is a physical point determined by the operator according to Art. 5, para 1, consisting of one or several points of hand-over of transmitted natural gas quantities by the operator to a network user;

6. **Pricing zone/zone** is a combination of two or more entry/exit points, determined by the operator according to Art. 5, para. 1, which are geographically identified and considered as one for pricing purposes;

7. **Network user** is a natural or legal entity having concluded a Transport Contract for transmission through the gas transmission network;

8. **Transmission services** are services related to the provision of rights to use capacity at entry points/zones and exit points/zones of the transmission network and natural gas transmission;

9. **Access** is the right to use the transmission system against payment for capacity booking therein based on a concluded Transport Contract;

10. **Transmission network operator ("operator")** is Bulgartransgaz EAD, owner of the gas transmission networks used to perform natural gas transmission services, holder of licenses for natural gas transmission through the national gas transmission network (NGTN), natural gas transmission through the gas transmission network for transit transmission (GTNTT) and for natural gas storage;

11. **Capacity** is the maximum natural gas quantity the operator can transport from/to a certain entry/exit point to the user on one gas day;

12. **Natural gas quantity** is a natural gas volume expressed in cubic meters at standard conditions/20°C temperature and pressure of 101 325 Pa or in energy units. The reported amount of gas in cubic meters (m³) shall be converted into energy units by multiplying the adjusted volume of gas by the representative calorific value of the gas/high heat at combustion / under standard conditions. The representative calorific value is a single value or combination of values of the high heat of combustion considered most appropriate depending on the type of metering

system.

13. **Natural gas transmission** is the transportation of natural gas through the transmission system owned by the operator;

14. **Contracted capacity** is the maximum transmission capacity the operator books for the gas transmission network/system user for the term of the concluded Transport Contracts at the respective entry and exit point;

15. **Firm capacity** is the natural gas transmission capacity contractually guaranteed as uninterrupted by the transmission network operator by virtue of a concluded Transport contract;

16. **Interruptible capacity** is a transmission capacity that might be interrupted by the operator in accordance with conditions set out in the Transport Contract;

17. **Interruptible capacity for reverse flow on commercial basis (backhaul or virtual capacity)** is transmission capacity at an entry-exit point in a direction opposite to the physical flow, performed on a commercial basis (there is no physical flow in the opposite direction);

18. **Regulatory period** is a period on the basis of which the allowed revenues of the operator are determined in order to set the prices for access and transmission of natural gas through the gas transmission system. It may include two or more pricing periods;

19. **Pricing period** is the period of one starting on 1 October and ending on 30 September during which the prices for access and transmission of natural gas through the gas transmission system remains unchanged;

20. **Base year** is a previous calendar year proceeding the first pricing period of the regulatory period;

21. **Controllable costs** are operating costs related to the licensed activity which the transmission operator can control;

22. **Directly transferable costs** are costs or revenues arising in the process of performing the licensed activity that the operator cannot influence directly.

24. **Consumer Price Index** is the official annual rate of inflation (I) determined by the National Statistical Institute.

25. **Special regulatory account** is the sum of annual differences between the revised required annual revenue and the actual annual revenue.

TRANSITIONAL AND FINAL PROVISIONS

§ 2. This Methodology has been approved by the State Energy and Water Regulatory Commission by Decision under Protocol № 109 of 11.08.2014, item 4 on the grounds of Art. 30, para 1, item 12 of the Energy Act and Art. 16, para 1 of Ordinance No. 2 for regulation of natural gas prices and in compliance with the requirements of Directive 2009/73/EC of the European Parliament and of the Council concerning common rules for the internal market in natural gas and the requirements of Art.13 of Regulation (EC) No 715/2009 of the European Parliament and of the Council on the conditions for access to the natural gas transmission networks.

§ 3. Setting prices for access and transmission of natural gas through the gas transmission system shall be performed by taking into account the effective long-term contracts with fixed prices and the necessity of setting prices for access and transmission of natural gas for the available capacity in the network.

§ 4. The prices for access and transmission of natural gas set under this Methodology shall be applied in accordance with Art. 37 for all effective Transport contracts, concluded after the date

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of entry into force of Regulation (EC) № 715/2009 of the European Parliament and the Council on the conditions for access to the natural gas transmission networks.

§ 5. The contracts for natural gas transmission concluded before entry into force of the Act for Amendment and Supplement to the Energy Act (promulgated SG 54/2012, in force as of 17.07.2012) where Bulgartransgaz EAD is a party, shall be executed until their expiry under the contracted terms and conditions of the transmission tariffs.

§ 7. The prices for access and transmission for the first regulatory period shall be set for the entry points/zones and exit points/zones of the transmission system.

§ 10. Methodology shall be effective as of 01.10.2014.

§ 12. This Methodology can be amended at the Commission's initiative or Bulgartransgaz EAD proposal. The Methodology's amendments shall come into force after their approval by the Commission according to the effective legislation, applying in the meantime the latest Methodology approved by the Commission.

TRANSITIONAL AND FINAL PROVISIONS

to the Methodology Amending and Supplementing the Methodology Determining Prices for Access and Transmission of Natural Gas through the Gas Transmission Networks Owned by BULGARTRANSGAZ EAD

§ 24. This methodology shall come into force on the date of its approval by the Energy and Water Regulatory Commission.

Appendix No. 1 to Art. 12, paragraph 2**Useful life of assets for regulatory purposes**

The depreciation costs are determined in accordance with Art. 55, para 2 of the Corporate Income Tax Act by a straight-line depreciation method based on the useful life of assets for regulatory purposes by groups of assets as follows:

Types of assets	Useful life, years
Gas pipelines	35
Compressor equipment	15
Equipment	15
Cable networks	15
IT and communications	5
Buildings	25
Other fixed tangible assets	5
Buffer gas (linepack)	60
Drills	35
Fixed non-tangible assets	7

Appendix № 2 to Article 28

Mathematical presentation of the cost allocation mechanism

The Appendix describes the mathematical approach for calculation of the prices for access to the gas transmission system by entry and exit points.

Terminology:

I = number of entry points

J = number of exit points

i = entry point $i \in \{1, \dots, I\}$

j = exit point $j \in \{1, \dots, J\}$

κ = peak cross point between network sections

S_{ik} = network section between an entry point i and peak κ

S_{kj} = network section between peak κ and an exit point j

S_{kk} = network section between two peaks

C_S^{tech} = technical capacity of the network section $S^{(1)}$

C_i^{booked} = booked capacity at an entry point i

C_j^{booked} = booked capacity at an exit point j

UC_S = unit cost for network section S

UC_{ij} = the sum of the unit costs for gas transportation from an entry point i to an exit point j

P_{ij} = the group of network sections used for gas transportation from an entry point i to an exit point j

UC = unit costs matrix

TNi = price at entry for an entry point i

TXj = price at exit for an exit point j

$R^{allowed}$ = required revenue

The calculation of the entry-exit prices consists of six steps, as follows:

Step 1: Setting the required revenues;

Step 2: Presentation of the transmission system and determining the network stations;

Step 3: Costs allocation (respectively the required revenues) by network sections;

Step 4: Calculation of the unit costs for each network section;

Step 5: Calculation of prices by entry and exit points;

Step 6: Additional adjustments.

The required revenue ($R^{allowed}$) of the network operator shall be set in accordance with the rules of this Methodology.

Step 2: Presentation of the network and determining the network stations;

The second step provides an appropriate representation of the gas transmission system. The main connections to other systems (including storage facilities) are presented in separate entry points

(i). The exit points (j) are physical points for natural gas supply or major connections to other systems. When several physical exit points are located close to each other, they can be grouped into one exit zone.

The transmission system is presented in a manner that reflects the topology of the main gas pipelines and is divided into separate network sections. The selection of network sections aims at presenting as accurately as possible the actual path of the gas flows. The network sections are selected so that each main diameter, as well as the transmission system topology determine the individual sections. The peaks (k) are determined as intersection of two or more network sections. Parallel gas pipelines are considered as one network section.

In conclusion, the segmentation of the transmission system results in a number of network sections between entry points and the peaks (S_{ik}), between two peaks (S_{kk}) or between peaks and exit points (S_{kj})

Step 3: Costs allocation (respectively the allowed revenues) by network sections

In step 3, the required revenues are allocated by network sections using an external key - the cost of assets replacement. By using the cost for replacement of the various gas pipeline sections, the relative weight for replacement of the individual network section in the total cost of replacing the transmission system is determined. The allowed revenue is allocated to the various sections ($R_S^{allowed}$).

Step 4: Calculation of unit prices by networking sections

The fourth step involves the calculation of the unit costs for each network section. The unit costs are determined by dividing the allocated share of the required revenues for the respective section into the technical capacity (C_S^{tech}) for that section.

The unit costs for each network section is calculated as follows:

$$UC_S = \frac{R_S^{allowed}}{C_S^{tech}}$$

Step 5: Calculation of prices by entry and exit points

In this step, the matrix of unit costs (**UC**) shall be constructed first. The matrix of unit costs (I x J) has as many rows as the entry points (I) of the transmission system and as many columns as the exit points (J) of the transmission system. The elements of the matrix of unit costs are the sum of the unit costs, following the specific path between an entry and an exit point (UC_{ij}):

$$UC = \begin{pmatrix} UC_{11} & \dots & UC_{1J} \\ \vdots & \ddots & \vdots \\ UC_{I1} & \dots & UC_{IJ} \end{pmatrix}$$

Assuming that P_{ij} is a set of network sections (UC_S), used for gas transportation from the entry point i to the exit point j , the element UC_{ij} can be calculated, as follows:

$$UC_{ij} = \sum_{UC_S \in P_{ij}} UC_S$$

The group of sections P_{ij} can be obtained by applying the algorithm for finding the shortest path

between the entry and exit point. Thus, instead of trying to find the path in the network structure with minimum total distance between the entry and exit point, the path with minimum sum of the unit costs shall be looked for. The network sections selected by this algorithm for each combination of an entry point i and an exit point j determined the group of sections P_{ij} .

The costs for gas transportation from an entry point i to an exit point j equal UC_{ij} . Therefore, the sum of the prices at the entry points i and that of the exit points j should also be equal to UC_{ij} . To calculate the prices for natural gas transmission by entry and exit points, the following equation should be solved:

$$\min \sum_{i=1}^I \sum_{j=1}^J (UC_{ij} - (TN_i + TX_j))^2$$

whereas

$$TN_i, TX_j > 0 \text{ at } \forall_{i,j}$$

To solve this mathematical problem the prices should be found by minimizing the sum of the squared differences between the sum of the prices of the entry i and the exit j points and the sum of the units costs by the paths UC_{ij} . Then a constraint is introduced the demanded prices by entry and exit points to be positive.

Step 6: Additional adjustments

The final step in the calculation of the prices by entry and exit points shall include additional adjustments to ensure recovery of the allowed revenues and applicability of the tariff system. These adjustments shall be made in two ways:

- First, additional mathematical constraints should be imposed on the optimization in step 5: the minimum ratio between the different prices at the exit or fixed division of the allowed revenue between the revenues generated by entry and exit points.

- Second, the prices resulting from the optimization in step 5 shall scale to cover the allowed revenues. The adjustment is made by multiplying these prices by a factor equal to the ratio of the allowed revenues and the revenues obtained in step 5.

The estimated revenues from the prices obtained in step 5 shall be calculated by multiplying these prices by the estimated capacities at the point of their application:

$$R^* = \sum_{i=1}^I C_i^{booked} * TN_i + \sum_{j=1}^J C_j^{booked} * TN_j$$

If R^* is lower than $R^{allowed}$, e.g. when the technical capacities of the network sections used to obtain the unit costs are potentially higher than the value of the booked capacities, the prices (TN_i and TN_j) shall be adjusted by the factor α :

$$\alpha = \frac{R^{allowed}}{R^*}$$