

Methodology for setting the  
tariffs for the access to the gas  
transmission network and  
natural gas transmission

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## 1. Introduction

The company eustream, a.s. (hereinafter only „Eustream“) based on requirements and conditions set out in the Commission Regulation (EU) 2017/460 of 16 March 2017 establishing a network code on harmonised transmission tariff structures for gas (hereinafter only „TAR NC“) prepared a document „Methodology for setting the tariffs for the access to the transmission network and natural gas transmission“ (hereinafter only „Methodology“), which establishes the main principles for applying consistent and transparent reference price methodology. The objective of this document is description of the principles and reference price methodology for access to the transmission network and natural gas transmission (hereinafter only „reference price“ or „tariff“) through the territory of the Slovak Republic (hereinafter only „SR“).

According to the Article 27(5) of the TAR NC the tariffs applicable for the prevailing tariff period at 31 May 2019 will be applicable until the end thereof. In case of company Eustream it means that currently valid tariffs and conditions of their application in line with the valid price decision issued by Regulatory Office for Network Industries will be valid and applicable until 31 December 2021. On 1 January 2022 new tariff and also regulatory period will start. Simultaneously, in line with the Article 12(3)(b) of the TAR NC:

*„The respective reserve prices published according to Article 29 shall be binding for the subsequent gas year or beyond the subsequent gas year in case of fixed payable price, beginning after the annual yearly capacity auction, unless“*

*b) the reference price is recalculated within the tariff period due to exceptional circumstances under which the non-adjustment of tariff levels would jeopardise the operation of the transmission system operator.“*

it is possible to adjust the tariffs, in case of exceptional circumstances, also within the current tariff period.

When preparing the Methodology, Eustream took into account the following circumstances:

- (i) high proportion of the international transmission (transit) on the overall natural gas transmission, exceeding 90%, by providing its activity,
- (ii) fact that it faces massive competition in form of international transit pipelines Jamal and Nord Stream, as well as transmission systems of other EU Member States which compete with the natural gas transmission of the company Eustream (e.g. in case of reverse natural gas transmission towards Ukraine).

When preparing the Methodology, Eustream took into account also historical information on demand for transmission capacities and assumptions for the next period, appropriate operational costs, range of the investments needed for providing long-term safe, secure and effective operation of the transmission network and appropriate rate of return of the operational assets, which presents incentive for long-term business activity in the area of natural gas transmission on the territory of the SR.

This Methodology allows better understanding of the tariffs for transmission services, way of their determination, explanation of their past and future changes and it creates a space for

shippers to predict the level of these tariffs. The Methodology will be subject of approval from the Regulatory Office for Network Industries.

Eustream prepared Methodology in a good faith and in line with requirements of the TAR NC and Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC, regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005 with the aim that the final transmission tariffs will contribute to the development of the national as well as European gas market.

This document is published in both Slovak and English versions. In case of a different interpretation, the Slovak version shall prevail.

## 2. Scope and major principles of the determination of the reference price methodology

Natural gas transmission via territory of the SR is provided entirely by the sole transmission system operator, company Eustream. The company Eustream operates following entry/exit points, at which the determination of the reference prices based on this Methodology applies:

### Entry/exit points from/to the transmission networks of gas facilities on the territories of other EU Member States:

- Lanžhot (entry/exit point from/to the transmission network of gas facilities on the territory of the Czech Republic),
- Baumgarten (entry/exit point from/to the transmission network of gas facilities on the territory of the Austria),
- Veľké Zlievce (entry/exit point from/to the transmission network of gas facilities on the territory of the Hungary),
- Výrava (entry/exit point from/to the transmission network of gas facilities on the territory of the Poland - under construction).

### Entry/exit points from/to the transmission networks of gas facilities on the territories of the third countries:

- Veľké Kapušany (entry/exit points from/to the transmission networks of gas facilities on the territory of Ukraine),
- Budince (entry/exit points from/to the transmission networks of gas facilities on the territory of Ukraine).

### Entry/exit points from/to the distribution networks and storage facilities:

- Domestic point (entry/exit point from/to the distribution networks and storage facilities on the territory of the SR).



Reference prices, calculated on the basis of this Methodology, are determined for the tariff period, which is equal with the length of the regulatory period (*note: the terms “regulatory period” and “tariff period” are equivalent in this Methodology due to this reason*) approved by the Regulatory Policy published by the Regulatory Office for Network Industries (hereinafter only „ÚRSO“) (generally for the period of 5 years), whereas their final level is subject of the escalation by the inflation rate.

### 3. Cost-based approach

Methodology described in this document reflects appropriate costs for the operation of the transmission network, including, but not limited to, costs of natural gas consumption, maintenance of the transmission infrastructure and its further development and also administrative, financial and marketing costs.

All costs included into the calculation according to this Methodology shall be transparent, provable, shall reflect costs of efficient and structurally comparable transmission system operator and shall contain appropriate rate of return of the invested capital.

Costs calculated by the transmission system operator, that serves as an input into the methodology for the calculation of reference prices according to this Methodology, shall be submitted to ÚRSO and approved by ÚRSO.

*Note: By means of this document, the last available audited financial statements of economic results of Eustream for the period of 12 consecutive calendar months shall be understood as the last available audited financial statements of economic results of the company Eustream.*

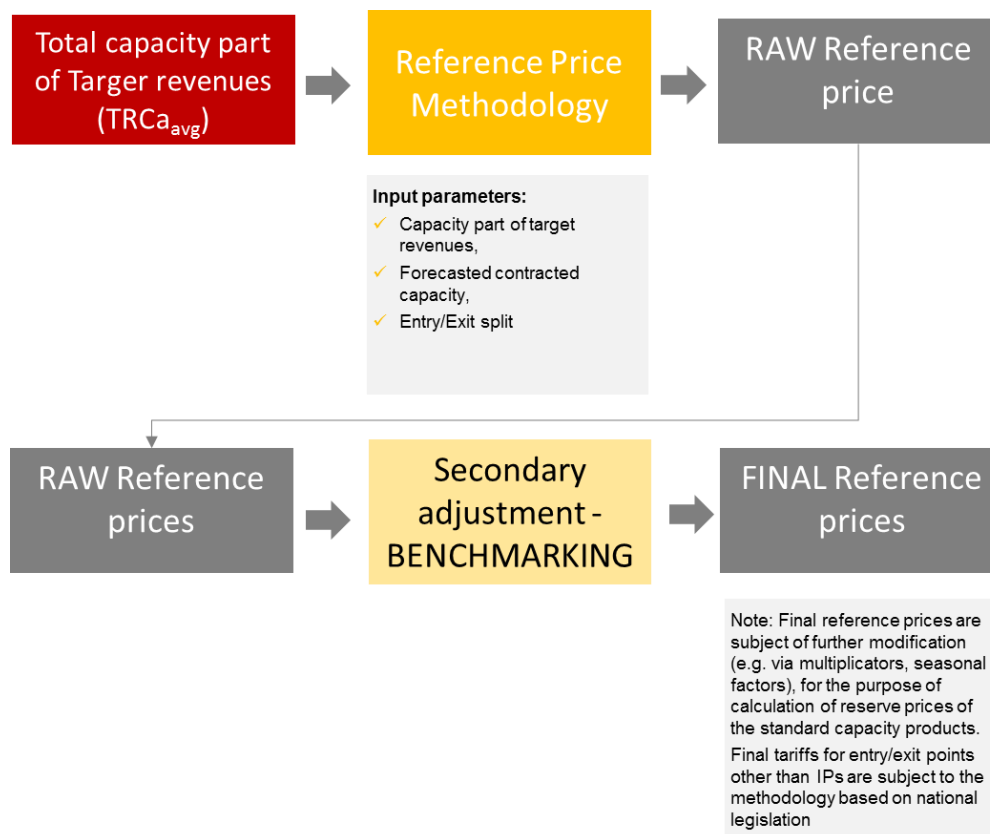
## 4. Calculation of the reference prices

Capacity part of the target revenues is an important input parameter into the methodology for determination of the final reference prices for access to the transmission network and natural gas transmission. As the tariff level for access to the transmission network and natural gas transmission is constant during the whole tariff (regulatory) period (with the exception of regular escalation by using chosen index of inflation rate, resp. with the exception of respective clauses according to the specific act<sup>1</sup>), the reference prices are calculated from an average level of the capacity part of revenues for the whole length of the regulatory period (hereinafter only „average capacity part of target revenues“ and/or „TRCa<sub>avg</sub>“).

Final reference prices are calculated based on a procedure, which contains 2 steps:

- (i) Calculation of the initial reference prices according to the reference price methodology based on a postage stamp methodology (Postage stamp);
- (ii) Secondary adjustment of raw reference prices based on prices comparison – benchmarking. The final reference prices are the result of step No 2.

Continuity of particular steps is presented in the chart mentioned below:



The more detailed description of all steps is determined in articles 4.1 and 4.2 of this Methodology.

<sup>1</sup> § 17 of the Act No 250/2012 on regulation in network industries



#### 4.1. Step 1 – Reference price methodology based on the postage stamp principle

Reference prices methodology, based on the postage stamp principle, uses the following input parameters:

- a) Average capacity part of target revenues ( $TRCa_{avg}$ );
- b) Forecasted contracted capacity at each entry point and exit point (hereinafter only „forecasted capacity“);
- c) Entry/exit split (Entry/Exit split). The split 50/50 is used for the purpose of calculation of initial reference prices based on this methodology.

After identification of input parameters, the initial reference prices will be derived according to this step sequence:

- a) Part of average forecasted capacity revenues related to the entry points and part related the to exit points will be determined in accordance with the following formulas:

$$TRCa_{avgEn} = TRCa_{avg} \times W_{En}$$

$$TRCa_{avgEx} = TRCa_{avg} \times W_{Ex}$$

where:

$TRCa_{avg}$  – Average capacity part of target revenues in EUR/y in a given regulatory period,

$TRCa_{avgEn}$  – Average capacity part of target revenues related to the entry points in EUR/y in a given regulatory period,

$W_{En}$  – Weight of revenues related to the entry points in percentage (50%),

$TRCa_{avgEx}$  – Average capacity part of target revenues related to the exit points in EUR/y in a given regulatory period,

$W_{Ex}$  – Weight of revenues related to the exit points in percentage (50%).

- b) Afterwards the values of initial reference prices will be calculated in a way that final values, specified in letter a), will be divided by average forecasted capacity at all entry points, resp. forecasted capacity at all exit points of a transmission network, in accordance with the following formulas:

$$T_{En} = \frac{TRCa_{avg\ En}}{CAP_{avg\ En}}$$

$$T_{Ex} = \frac{TRCa_{avg\ Ex}}{CAP_{avg\ Ex}}$$

where:

$T_{En}$  – Initial reference price at entry points in EUR/MWh/d/y, for the first year of a given regulatory period,

$T_{Ex}$  – Initial reference price at exit points in EUR/MWh/d/y, for the first year of a given regulatory period,

$CAP_{avg\ En}$  – Sum of average forecasted capacity at all entry points in MWh/d, in a given regulatory period,

$CAP_{avg\ Ex}$  – Sum of average forecasted capacity at all exit points in MWh/d, in a given regulatory period.

#### 4.2. Step 2 – Secondary adjustment of raw reference prices – benchmarking

Cost-based form of regulation of the prices for access to the transmission network and natural gas transmission has, in case of the SR, important specifics, if compared to the other Member States of the European Union. The most important are as follows:

- (i) High proportion of the international transmission (transit) on the overall natural gas transmission, exceeding 90%; and
- (ii) Massive competition in form of international transit pipelines Jamal and Nord Stream as well as transmission systems in other Member States of the European Union, which compete with the natural gas transmission of company Eustream (e.g. by reverse natural gas transmission towards Ukraine).

This specific position of the Slovak transmission system may lead into high volatility of the tariff level, due to the fact of highly competitive environment. In regards to these facts, benchmarking constitutes an important tool for securing long-term stability and competitiveness of the tariff system.

By means of the Art. 6(4)(a) of the TAR NC:

*„4. Adjustments to the application of the reference price methodology to all entry and exit points may only be made in accordance with Article 9 or as a result of one or more of the following:*

- a) *benchmarking by the national regulatory authority, whereby reference prices at a given entry or exit point are adjusted so that the resulting values meet the competitive level of reference prices”*,

benchmarking serves as the relevant methodology for securing above-mentioned target – long-term stability and competitiveness of the tariff system.

When determining final reference prices for access to the transmission network and natural gas transmission on the territory of the SR, benchmarking shall be used in a following manner:

- (i) Minimum and maximum transmission tariffs shall be calculated for entry interconnection points (IP) and exit interconnection points (IP), in EUR/MWh/d/y, for minimum 15 transmission system operators from at least 10 Member States of the European Union,
- (ii) Minimum and maximum transmission tariffs, calculated based on the point (i), shall be adjusted (escalated) for the value corresponding to the first year of a regulatory period for which tariffs are determined. For this escalation, forecasted inflation rate of Member States of the European Union shall be used,
- (iii) Based on results of comparison the final reference prices for the company Eustream shall be determined in a manner that the resulting values meet the competitive level of reference prices.

### 4.3. Tariffs escalation

As it is mentioned above, values of final reference prices, determined in line with Articles 4.1 and 4.2 of this Methodology, are calculated for the first year of a given tariff/regulatory period. Final reference prices for the next years of the tariff/regulatory period are a subject of escalation based on the inflation rate of the EU countries, in accordance to the following formula:

$$T_{En,Ex(t)} = T_{En,Ex(t-1)} \times (1 + IR_{(t-2)}/100)$$

where:

$T_{En,Ex(t)}$  – Initial reference price at entry/exit point in EUR/MWh/d/y, for the year (t),

$IR_{(t-2)}$  – Inflation index in the European Union published by the authority Eurostat, the item „HICP – annual average rate of change – European Union (yearly average rate of inflation– European Union)“ valid in a calendar year (t-2).

## 5. Tariffs at entry/exit points different than points from/to transmission systems of gas facilities located on the territories of other Member States of the European Union

Since, in line with the Article 2 of the TAR NC, not entire scope of TAR NC is applicable for the entry/exit points other than IPs, final tariffs applicable for non-IPs can differ from the final reference prices calculated in line with this Methodology. A method of calculation of the final tariffs for these points is based on the national legislation and is not being part of this document.

Methodology for calculation of the final tariffs for non-IP – Domestic point shall, inter-alia, have the role of preventing the negative aspects of cost regulation, in case of the operator with a high share of transit on the total natural gas transmission (particularly, when only small part of revenues comes from monopolistic business, and vice versa, majority of transmission revenues is produced in an extremely competitive environment of transmission routes, where cost-base form of regulation could lead into the price increase for a small group of customers).

## 6. Tariffs adjustments at entry points from storage facilities and exit points to storage facilities

In line with the Article 9(1) of the TAR NC:

*“A discount of at least 50 % shall be applied to capacity-based transmission tariffs at entry points from and exit points to storage facilities, unless and to the extent a storage facility which is connected to more than one transmission or distribution network is used to compete with an interconnection point.”*

the final reference prices for entry/exit points from/to storage facilities should be a subject of another adjustment – granting a discount of at least 50%. As all storages on the territory of SR are interconnected with (i) the Austrian transmission system and (ii) the Slovak distribution system and these interconnections are fully utilized for “competing with interconnection points”, granting of this discount is not obligatory. As in the current regulatory period, entry/exit from/to storage facilities located on the territory of the SR is the part of the Domestic Point and not a separate entry/exit point, a discount for the entry/exit point from/to storage facilities is not proposed to be granted.

## 7. Reference prices comparison based on TAR NC

For purpose of reference price comparison, in line with the Article 26 of the TAR NC, we used the final reference prices, calculated according to this methodology, and the reference prices calculated according to the Article 8 of the TAR NC, so it means on the basis of capacity weighted distance using the following procedure:

1. Reference price methodology based on capacity weighted distance, for comparison purposes, uses following input parameters:
  - a) Average capacity part of target revenues ( $TRC_{avg}$ );
  - b) Forecasted contracted capacity from forecasted contracts at each entry point and at each exit point (hereinafter only „forecasted capacity“);
  - c) Matrix of the shortest distances of pipeline routes between entry points and exit points.
2. After identification of the input parameters, the initial reference prices are derived in this step sequence:
  - a) according to the following formulas, weighted average distance for each entry point and each exit point shall be calculated:
    - (i) for an entry point as a sum of products of a forecasted capacity at each exit point and a distance from a given entry point to each exit point, divided by the sum of forecasted capacities at each exit point:

$$AD_{En} = \frac{\sum_{all\ Ex} CAP_{avg\ Ex} \times D_{En,Ex}}{\sum_{all\ Ex} CAP_{avg\ Ex}}$$

where:

$AD_{En}$  - Weighted average distance for an entry point,

$CAP_{avg\ Ex}$  – Average forecasted capacity for a given regulatory period at an exit point in MWh/d/y,

$D_{En,Ex}$  – Distance between a given entry point and a given exit point in km.

- (ii) for an exit point as a sum of products of a forecasted capacity at each entry point and a distance to a given exit point from each entry point, divided by the sum of forecasted capacities at each entry point:

$$AD_{Ex} = \frac{\sum_{all\ En} CAP_{avg\ En} \times D_{En,Ex}}{\sum_{all\ En} CAP_{avg\ En}}$$

where:

$AD_{Ex}$  - Weighted average distance for an exit point,

$CAP_{avg\ En}$  – Average forecasted capacity for a given regulatory period at an entry point in MWh/d/y,

$D_{En,Ex}$  – Distance between a given entry point and a given exit point in km.

- b) according to the following formulas the weight of costs for each entry point and each exit point shall be calculated:

$$W_{En} = \frac{CAP_{avg\ En} \times AD_{En}}{\sum_{all\ En} CAP_{avg\ En} \times AD_{En}}$$

$$W_{Ex} = \frac{CAP_{avg\ Ex} \times AD_{Ex}}{\sum_{all\ Ex} CAP_{avg\ Ex} \times AD_{Ex}}$$

where:

$W_{En}$  – Weight of cost for a given entry point,

$W_{Ex}$  – Weight of cost for a given exit point,

$AD_{En}$  – Weighted average distance for an entry point in km,

$AD_{Ex}$  – Weighted average distance for an exit point in km,

$CAP_{avg\ En}$  – Average forecasted capacity for a given regulatory period at an entry point in MWh/d/y,

$CAP_{avg\ Ex}$  – Average forecasted capacity for a given regulatory period at an exit point in MWh/d/y.

- c) by application of the entry-exit split we determine the part of average capacity part of target revenues to be recovered from capacity-based transmission tariffs from forecasted transmission contracts at all entry points and that part of the average capacity part of target revenues to be recovered from capacity-based transmission tariffs from forecasted transmission contracts at all exit points. Entry/exit split, according to TAR NC, is set to 50/50.

- d) according to the following formulas an average capacity part of target revenues corresponding to each entry point and each exit point shall be calculated:

$$TRCa_{avg\ En} = W_{En} \times TRCa_{avg\ \Sigma En}$$

$$TRCa_{avg\ Ex} = W_{Ex} \times TRCa_{avg\ \Sigma Ex}$$

where:

$TRCa_{avg\ En}$  – Average capacity part of target revenues corresponding to each entry point in EUR/y in a given regulatory period,

$TRCa_{avg\ Ex}$  – Average capacity part of target revenues corresponding to each exit point in EUR/year in a given regulatory period,

$W_{En}$  – Weight of costs for a particular entry point,

$W_{Ex}$  – Weight of costs for a particular exit point,

$TRCa_{avg\ \Sigma En}$  – Average capacity part of target revenues corresponding to all entry points in EUR/y in a given regulatory period,

$TRCa_{avg\ \Sigma Ex}$  – Average capacity part of target revenues corresponding to all exit points in EUR/year in a given regulatory period.

- e) Values of the initial reference prices shall be calculated in a manner that final values referred to in the point d) shall be divided by the average forecasted capacity at each entry point and at each exit point, according to these formulas:

$$T_{En} = \frac{TRCa_{avg\ En}}{CAP_{avg\ En}}$$

$$T_{Ex} = \frac{TRCa_{avg\ Ex}}{CAP_{avg\ Ex}}$$

where:

$T_{En}$  – Initial reference price at an entry point in EUR/MWh/d/y, for the first year of a given regulatory period,

$T_{Ex}$  – Initial reference price at an exit point in EUR/MWh/d/y, for the first year of a given regulatory period.



## 8. Attachments

Attachment No 1 – Tariff model