

Pursuant to Article 4.2 and 4.8 of the Law on Transmission, Regulator and Electricity System Operator in Bosnia and Herzegovina (Official Gazette of BiH, 7/02, 13/03, 76/09 and 1/11) and Article 36 of the Rules of Practice and Procedure of the State Electricity Regulatory Commission (Official Gazette of BiH, 2/05), at the session of the State Electricity Regulatory Commission issues, held on 16 July 2014, the following decision was adopted:

DECISION

ON MODIFICATIONS AND AMENDMENTS TO THE TARIFF PRICING METHODOLOGY FOR SERVICES OF ELECTRICITY TRANSMISSION, OPERATION OF THE INDEPENDENT SYSTEM OPERATOR AND ANCILLARY SERVICES

Article 1

In Article 2 of the Tariff Pricing Methodology for services of electricity transmission, operation of the Independent System Operator and ancillary services - Consolidated Text (Official Gazette of BiH, 93/11) the definition of ‘customer’ shall be amended and read as follows:

“ ‘**Customer**’ shall mean a licensed electric power entity (a holder of a license for electricity supply, distribution or generation) directly connected to the transmission network that takes over electricity from the transmission system.

The definition of ‘**distribution operator**’ shall be amended and read as follows:

“ ‘**Distribution system operator**’ shall mean an electric power entity that performs the electricity distribution activity and operates the distribution system and that is responsible for the operation, maintenance and development of the distribution system in a specific area, its connection with other systems and provides long-term capabilities of the system to meet the electricity distribution needs”.

Article 2

Article 3 shall be amended and read as follows:

“Article 3

(Abbreviations)

AD - value of accumulated depreciation of the fixed assets

C_{AS} - costs of ancillary service purchasing

C_D - costs of depreciation

C_{GA} - value of granted assets

C_L – costs of purchasing electricity to cover transmission system losses

$C_{O\&M}$ - costs of operation and maintenance

C_{Pen} – costs of charges for non-provision of capacity for secondary control

C_{SecCap} – costs of providing capacity for secondary control

C_{TerCap} - costs of providing capacity for tertiary control

$DI(\%)$ - debt interest

DP - debt part, value of liabilities from the balance sheet

ENTSO-E - European Network of Transmission System Operators for Electricity

EP - equity part, value of capital from the balance sheet

GA - granted assets

k - ratio of revenue requirement of the energy component of the tariff and the total revenue requirement

$k_{PenSecCap}$ – coefficient of charges for non-provided secondary control capacity

k_{SecCap} – price coefficient for secondary control capacity

k_{TerCap} - price coefficient for tertiary reserve capacity

KM - convertible mark

kvarh - unit for reactive energy (1 kvarh = 1000 varh)

kW - measurement unit for active power (1 kW = 1000 W)

kWh - measurement unit for active energy

$p_{BaseSecCap}$ – base price of secondary control capacity

P_C - peak load measured at customers which is an annual summation of all monthly maximum capacities measured at customers

p_E - price at the bus bar of a generating unit which delivers energy for regulation

P_{FalSec} – price of non-provided secondary control capacity

p_G - transmission fee paid by generators

p_{ISOG} - tariff for operation of the Independent System Operator paid by generators

p_{ISOL} - tariff for operation of the Independent System Operator paid by customers

p_L - price of electricity to cover transmission system losses

p_{LC} - part of the transmission fee to be paid by customers referring to capacity

p_{LE} - part of the transmission fee to be paid by customers referring to energy

p_{MR} – reference price in the electricity market

p_{MaxGen} – active energy price of the most expensive generating unit in BiH

$p_{MaxSecCap}$ – price cap for secondary control capacity
 $p_{MaxSecCapMont}$ – monthly price cap for secondary control capacity
 $p_{MaxSecCapYear}$ – annual price cap for secondary control capacity
 $p_{MaxTerCap}$ – price cap for tertiary control capacity
 $p_{MaxTerEnUp}$ – price cap for upward tertiary control
 $p_{PenSecCap}$ – price of charges for non-provided secondary control capacity
 p_R - price of excessive take-off of reactive energy

 p_{SC} - price of secondary control energy
 $p_{SecEnDow}$ – price of energy for downward secondary control
 $p_{SecEnUp}$ - price of energy for upward secondary control
 p_{Sys} – tariff for system services
 p_{TCPP} - price of active power at the bus bar of the generation unit which delivers tertiary control energy (control power plants)
 p_{TerCap} – price of tertiary control capacity
 $p_{TerEnDow}$ - price of energy for downward tertiary control
 $p_{TerEnUp}$ - price of energy for upward tertiary control

 PV - purchase value of fixed assets
 RAB - regulatory asset base
 ROA - return on assets
 $ROE(\%)$ - return on equity

 RR_G - part of revenue requirement pertaining to network fees paid by generators
 RR_{ISO} - revenue requirement for performance of the regulated activity (service) of the ISO
 RR_{ISOG} - part of the Independent System Operator’s revenue requirement pertaining to the tariff paid by generators
 RR_{ISOL} - part of the Independent System Operator’s revenue requirement pertaining to the tariff paid by customers

R_{OTH} - other revenues referring to the regulated activity including the revenue from the allocation of the right to use cross-border transmission capacities and the net amount (revenue - expenditure) based on the Inter-TSO Mechanism – ITC Mechanism)

RR_L - revenue requirement referring to network fees paid by customers

RR_{TR} - revenue requirement for performance of the regulated activity (service) of the Transmission Company

S – difference in prices of energy for upward and downward secondary control

$T(\%)$ - effective tax rate on profit, relevant for the tariff period

TC - total capital from the balance sheet

W_C - active electric energy taken over by customers

W_G - active electric energy injected in the transmission network by generators connected to the transmission system

$WACC$ - weighted average cost of capital

WC - value of working capital”.

Article 3

Article 5 shall be amended and read as follows:

“Tariffs issued by SERC shall be the tariff for electricity transmission service (transmission network fee), tariff for the operation of the Independent System Operator, tariff for system services and tariff for ancillary services.”

Article 4

Article 26 shall be amended and read as follows:

“Article 26

(Tariff for ancillary and system services)

- (1) Tariffs for ancillary and system services shall be designed to cover costs of purchasing ancillary services. The ISO shall purchase ancillary services through public bidding.
- (2) Ancillary services may be delivered by all entities in the power sector that have the capacity for the provision of these services. The ISO shall purchase ancillary services through transactions with providers of these services while the delivery of system services shall be performed with the aim of ensuring optimal operation of the transmission system. The ISO shall be obligated to estimate the required scope of all ancillary and system

services on an annual basis and determine a financial amount for each service separately on an annual basis as well as a total financial amount of all required ancillary and system services.

- (3) System, i.e. ancillary services, shall be:
 - control of frequency and active capacity – primary, secondary and tertiary;
 - control of voltage and reactive capacity;
 - black start;
 - covering of electricity losses in the transmission system;
 - excessive take-on of reactive energy;
 - eliminating deviations of balance responsible parties from the daily schedule.
- (4) The ISO shall keep records of and calculate all costs related to purchasing of ancillary services and revenues from the provision of system services separately from costs which are recognised within the tariff for the ISO operation.
- (5) Exceptionally, in case of inability to provide ancillary services through public bidding, ancillary services shall be purchased in a regulated manner. If ancillary services are provided in a regulated manner, the ISO shall be obligated to prepare a list of generating units, i.e., power entities which have the technical possibility to provide ancillary services in Bosnia and Herzegovina, based on which SERC shall put forward a proposal for meeting the needs for ancillary services and by its decision SERC shall determine the entities providing ancillary services and set tariffs for each service separately.”

Article 5

Article 28 shall be amended and read as follows:

“Article 28

(Secondary control – capacity)

- (1) The ISO shall determine the scope of required secondary reserve (capacity) in the BiH control area for each calendar month of a year, for peak and off-peak periods separately.
- (2) The peak period shall be in the period from 6:00 to 24:00 hrs while the off-peak period shall be from 0:00 to 6:00 hrs every day.
- (3) The ISO shall provide secondary control by purchasing this service in the market through public bidding. The ISO shall be obligated to conclude contracts with service providers specifying the scope of services with detailed energy and financial values and other necessary data.

- (4) The procedure to purchase secondary control reserve capacity shall be carried out on an annual and monthly basis.
- (5) A monthly purchase of secondary control reserve capacity shall be organised to purchase the missing quantities of secondary control reserve capacity. In those months for which the required secondary control reserve capacity has been fully purchased through an annual purchase, a monthly purchase shall not be organised.
- (6) The ISO shall rank submitted bids by the bid price of secondary control reserve capacity and make selection of the most favourable bids to the level of the required quantity of secondary control reserve capacity. Secondary control capacity shall be paid at the bid price.
- (7) If the required scope of secondary control capacity has not been purchased through an annual or monthly procedure for a certain month, the ISO shall re-allocate the missing quantities per individual service providers, taking into consideration the quantities purchased through market procedures and providers from which those quantities were purchased. The price of this capacity shall equal to the weighted average cost of capital provided by accepting the most favourable bids referred to in Paragraph (5) of this Article.
- (8) The price cap for secondary control reserve capacity shall be defined with the aim of protecting market participants, primarily the customers under the conditions of insufficiently developed competition. The price cap for secondary control reserve capacity shall equal to the product of the secondary control reserve capacity base price and predefined coefficient k_{SecCap} which ensures sufficient incentives to suppliers to provide secondary control reserve capacity:

$$P_{MaxSecCap} = k_{SecCap} * p_{BaseSecCap} ; 1 \leq k_{SecCap} \leq 1.5$$

- (9) The secondary control reserve capacity base price shall equal to the higher value between the fixed costs of the most expensive generating unit providing the secondary control service and the market value of capacity which is used to provide the ancillary service of automatic secondary control.

$$p_{BaseSecCap} = \max(\text{capital costs}, \text{market value})$$

- (10) The market value of secondary control reserve capacity shall be calculated in a different manner depending on the type of market bidding procedure, i.e. whether it is annual or monthly, based on annual and monthly *forward* prices in the electricity exchange. The market value is limited within the following range:

$$10 \text{ €/MW/h} \leq \text{market value} \leq 40 \text{ €/MW/h}$$

- (11) The price cap and input parameters for its setting shall be published by SERC, at least 10 days before the beginning of the market procedure for purchasing secondary control reserve capacity.

- (12) The price of charge for failing to meet the obligation to provide the allocated quantities of secondary control reserve capacity shall be higher than the price cap for secondary control reserve capacity. The price cap for secondary control reserve capacity depends on whether it is the result of an annual ($p_{maxSecCapYear}$) or monthly purchase ($p_{maxSecCapMont}$), while the price of charge is defined as the function of the higher value between these two prices.
- (13) The price cap for secondary control reserve capacity (KM/MW/h) shall be determined for each calendar month. If the provider cannot provide the allocated compulsory quantity of secondary control reserve capacity or the provider which contracted the provision of reserve capacity does not nominate that reserve to the ISO on day D-1, the price of charge shall amount:

$$p_{PenSecCap} = k_{PenSecCap} * \max (p_{MaxSecCapYear}, p_{MaxSecCapMont}) ; 1.1 \leq k_{PenSecCap} \leq 1.25$$

- (14) Total financial value of the charge for non-provision of allocated quantities of secondary control reserve capacity shall equal to the product of the non-provided reserve (P_{FalSec}) and the price of charge ($p_{PenSecCap}$) for non-provided reserve:

$$C_{Pen} = P_{FalSec} * p_{PenSecCap}$$

- (15) The value of the coefficient $k_{PenSecCap}$ shall be determined by SERC upon an ISO's proposal in accordance with the behaviour of market participants, that is, the level of non-provided allocated quantity of reserve capacity.”

Article 6

New Articles 28a, 28b, 28c and 28d shall be added after Article 28 and read as follows:

“Article 28a

(Secondary control - energy)

- (1) All providers which contracted the provision of secondary control reserve capacity shall be obligated to submit their bids for delivery of balancing energy in accordance with the contracted capacities. Bids for secondary control balancing energy shall comprise of data on prices offered for balancing energy for upward and downward secondary control for each hour of the day separately.
- (2) Bids shall be submitted at least one day in advance and no later than a month in advance, on an hourly basis, in particular for upward and downward secondary control. Bid providers shall submit only one bid per provider on an hourly basis.
- (3) Secondary energy shall be activated proportionately to the contracted capacity. Secondary control energy shall be paid to providers at bid prices.
- (4) The difference between the bid price of upward secondary control energy ($p_{SecEnUp}$) and price of downward secondary control energy ($p_{SecEnDow}$) in a certain hour shall be within the regulated scope, that is, less than or equal to maximum value of this difference S (€/MWh).

$$P_{SecEnUp} - P_{SecEnDow} \leq S$$

- (5) The value of S shall be determined by SERC.

Article 28b

(Tertiary control – capacity)

- (1) The ISO shall determine the scope of required tertiary reserve capacity in the BiH control area, for each calendar month of the year taking into consideration the existing arrangements for the joint reserve in the SHB control block and other arrangements at the ENTSO-E level.
- (2) The ISO shall determine separately the scopes of required upward and downward reserve capacities.
- (3) The ISO shall provide tertiary reserve capacity by purchasing this service in the market through public bidding. The ISO shall be obligated to conclude contracts with service providers specifying the scope of services with detailed energy and financial values and other necessary data.
- (4) The procedure to purchase tertiary control reserve capacity shall be carried out on an annual and monthly basis.
- (5) If it is impossible to purchase the required scope of tertiary control reserve capacity in total on an annual basis, a purchase of the missing values of reserve shall be organised on a monthly level.
- (6) The ISO shall rank all submitted bids by the price of tertiary control reserve capacity and make selection of the most favourable bids of tertiary control reserve capacity (or all offered quantities if the offered quantities are lower than the required ones).
- (7) The price of tertiary control reserve capacity (p_{TerCap}) shall equal to the bid price of tertiary control capacity which was selected in the process of purchasing tertiary control reserve capacity.
- (8) With the aim of protecting the market competition, the price cap for tertiary control reserve capacity shall be defined as:

$$P_{MaxTerCap} = k_{TerCap} * p_{TerCap}; \quad 1.1 \leq k_{TerCap} \leq 1.5$$

The price cap and basic input parameters for its setting shall be established by SERC.

Article 28c

(Tertiary control – energy)

- (1) Using the daily balancing energy market for tertiary control the ISO shall purchase required balancing energy in order to be able to correct deviations of balancing capacities and reference values of frequency in the real time in the BiH control area.
- (2) The ISO shall be responsible for organising and administering the daily balancing energy market for tertiary control while SERC shall monitor the operation of this market.
- (3) In the daily balancing energy market, bids of participants for tertiary balancing energy shall be collected separately for energy for upward and downward regulation.
- (4) The price of balancing energy for upward tertiary control ($p_{TerEnUp}$) shall be limited with the aim of protecting the market competition. The price cap for balancing energy for upward tertiary control shall equal to three times the value of the electricity reference price in the market (p_{MR}):

$$p_{MaxTerEnUp} = 5 * p_{MR}$$

The price cap for balancing energy for upward tertiary control shall be established by SERC.

- (5) The price of balancing energy for downward tertiary control ($p_{TerEnDow}$) shall not be limited.

Article 28d

(Tariff for system service)

- (1) The tariff for system service (p_{Sys}) shall serve to cover costs of purchasing secondary reserve capacity (C_{SecCap}), costs of purchasing tertiary reserve capacity (C_{TerCap}) and costs of purchasing electricity to cover losses in the transmission system (C_L).

- (2) The tariff for system service shall amount to:

$$P_{Sys} = (C_{SecCap} + C_{TerCap} + C_L) / W_C$$

where:

W_C – active energy taken over by customers (kWh)

- (3) The ISO shall bill the tariff for system service to all licensed entities which take over electricity from the transmission system.
- (4) Costs of purchasing secondary reserve capacity, tertiary reserve capacity and electricity to cover losses in the transmission system shall be determined by the ISO on an annual basis after the procedure to purchase these services has been completed. In case of an incomplete purchase, for the purpose of setting the tariff for system service the estimate of total annual costs may be used.

(5) As a rule, the tariff for system service shall be adjusted on an annual basis.”

Article 7

Article 31 shall be amended and read as follows:

“Article 31

(Costs of losses in the transmission system)

- (1) Estimation of justified costs incurred due to electricity losses in the transmission system shall be based on annual quantities of transferred energy pursuant to Article 10 of this Methodology.
- (2) The ISO shall provide energy to cover losses in the transmission system by a purchase in the market through public bidding. The ISO shall be obligated to conclude contracts with the service providers.
- (3) The procedure to purchase electricity to cover losses in the transmission system shall be carried out on an annual basis. In case of an incomplete purchase on an annual basis, a purchase shall be organised on a monthly basis.
- (4) The electricity price obtained through the annual purchasing of electricity to cover losses in the transmission system shall be the electricity reference price in the market p_{MR} . This price may be used as the reference price for the purpose of setting other prices which are prescribed by this Methodology.”

Article 8

Paragraph (3) of Article 32 shall be amended and read as follows:

“(3) The price of excessive take-on of reactive energy p_R shall be:

$$p_R = p_{MR} / 9$$

where p_{MR} shall be the electricity reference price in the market.”

Article 9

Article 33 shall be amended and read as follows:

“Article 33

(Deviations of balance responsible parties from the schedule)

- (1) Values of deviations of balance responsible parties from the schedule shall be calculated on an hourly basis. The ISO shall calculate deviations both in energy and financial terms pursuant to the Market Rules.

- (2) The balance responsible party, to which the market participant belongs, with which the ISO concluded a contract on purchasing energy to cover losses in the transmissions system, shall be obligated to pay charges for deviations pursuant to the provisions referred to in Paragraph (1) of this Article.
- (3) The balance responsible party, to which the market participant belongs, with which the distribution system operator concluded a contract on purchasing energy to cover losses in the transmissions system, shall be obligated to pay charges for deviations pursuant to the provisions referred to in Paragraph (1) of this Article.
- (4) Settlement of deviations of the BiH control area towards the SHB control area shall be done in kind (energy) for each tariff period.”

Article 10

Article 34 shall be amended and read as follows:

“Article 34

(Calculation and invoicing of ancillary and system services)

- (1) Invoicing and payment of ancillary and system services shall be done on the basis of calculation of ancillary and system services which is made by the ISO.
- (2) This calculation shall be delivered to balance responsible parties, customers connected to the transmission system, the electricity distribution company of Brčko District BiH and SERC. The calculation specifies financial and energy standings of the ISO and balance responsible parties. Furthermore, energy standings of market participants in relation to the balance responsible party to which they belong shall be presented.
- (3) With the aim of producing an accurate calculation, distribution system operators (DOS) shall be obligated to submit all required data and information to the transmission system operator (ISO BiH).”

Article 11

A new Article 35a shall be added after Article 35 which shall read as follows:

“Article 35a

(Monitoring)

SERC shall implement monitoring activities over the process of collecting public bids. With the aim of preventing non-allowed behaviour of market participants, SERC shall undertake the relevant measures in line with its competences.”

Article 12

(Obligations of Independent System Operator)

For all obligations referred to in Articles 28, 28a, 28b and 28c of this Methodology, the Independent System Operator shall develop procedures to ensure unhindered and timely conduct of activities within its competence. These procedures shall refer to calculating the scope of needs for ancillary services in the BiH control area, providing ancillary services in the market, checking the adequacy of providers' technical capabilities, functioning of the balancing market, defining the quality of services provided, adequate penalties for non-provision of services, calculation and reporting.

Article 13

(Entry into force)

This Decision shall enter into force on the eighth day after its publication in the Official Gazette of BiH.

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16 July 2014

Tuzla

Chairman of the Commission

Nikola Pejić