

Pursuant to Article 4.8. of the Law on Transmission of Electric Power, Regulator and System Operator in Bosnia and Herzegovina (Official Gazette of BiH, 7/02, 13/03, 76/09 and 1/11) and Articles 6, 7 and 9 of the Rule on Tariff Proceedings (Official Gazette of BiH, 44/05), deciding upon the application of Independent System Operator in Bosnia and Herzegovina, number 41/23 of 19 October 2023, at the session held on 20 December 2023, the State Electricity Regulatory Commission passed a

DECISION

ON TARIFFS FOR SYSTEM SERVICE AND ANCILLARY SERVICES

Article 1 ***(Subject Matter)***

This decision defines a tariff for system service, price of electricity procurement for covering of losses in the transmission system in a regulated manner, compensation for operation of generators in the capacitive regime and a tariff for excessive withdrawal of reactive power from the transmission system of Bosnia and Herzegovina.

Article 2 ***(System Service)***

- (1) The financial scope of the system service in 2023 shall be set to the amount of BAM 88,070,921 and the tariff for system service shall amount to 0.4789 fening/kWh.
- (2) The funds collected on the basis of the tariff for system service shall be used exclusively for market-based procurement of the frequency containment reserve, the automatic frequency restoration reserve, the manual frequency restoration reserve, replacement reserve and market-based and regulated procurement of electricity to cover losses in the transmission system as well as other costs related to the system service.

Article 3 ***(Electricity Procurement for Covering of Losses in the Transmission System)***

- (1) The Independent System Operator in Bosnia and Herzegovina (NOS BiH) shall procure electricity for covering of losses in the transmission system in a regulated manner at price of 109.94 BAM/MWh, in the period when this service cannot be purchased through public bidding.
- (2) For the procurement process referred to in paragraph (1) of this article, the ISO BiH is obligated to specify the missing scopes of electricity and the entities to provide energy for covering of losses in the transmission system with related quantities and to apply the prescribed Procedure for regulated process of procurement of this energy, which is all done in accordance with Article 26 paragraph (6) of the Tariff Pricing Methodology for services of electricity transmission, operation of an independent system operator and ancillary services – Second consolidated version (Official Gazette of BiH, 68/21 – hereinafter: the Tariff Methodology).

Article 4 ***(Regulation of Voltage and Reactive Power)***

It is determined that the compensation for operation of generators in the capacitive regime shall amount to zero (0) fening/kvarh.

Article 5
(Excessive Withdrawal of Reactive Power)

It is determined that the tariff for excessive withdrawal of reactive power from the transmission network shall amount to zero (0) fening/kvarh.

Article 6
(Calculation of Deviations from Daily Schedule by Balance Responsible Parties)

Values of deviations from a daily schedule by balance responsible parties shall be calculated on a 15-minute basis. The Independent System Operator in Bosnia and Herzegovina (ISO BIH) shall calculate deviations in energy and financial terms pursuant to the Market Rules and relevant procedures.

Article 7
(Calculation and Billing of Ancillary Services and System Service)

- (1) Pursuant to the Market Rules and relevant procedures, the ISO BIH shall make calculation of ancillary and system services based on which billing and payment of services shall be made.
- (2) The calculation referred to in item (1) of this article shall be submitted to ancillary service providers, suppliers of customers connected to the transmission system, distribution system operators in BIH and SERC. The calculation shall include financial and energy positions of the ISO BIH and market entities.
- (3) With the aim of making an accurate calculation, distribution system operators shall be obligated to provide the ISO BIH with all required data and information in a timely manner.

Article 8
(Final Provisions)

This decision shall enter into force on the day of the adoption and it shall be applied as of 1 January 2024.

The operative part of the Decision shall be published in the “Official Gazette of BIH” and the official gazettes of the Entities and the Brčko District of BIH.

Statement of Rationale

The Independent System Operator in Bosnia and Herzegovina (hereinafter: the ISO BIH) is one of the regulated entities in the electric power sector with the task to manage the transmission system operation in Bosnia and Herzegovina. The ISO BIH competences and functions have been defined by the Law on Transmission of Electric Power, Regulator and System Operator in Bosnia and Herzegovina (Official Gazette of BIH, 7/02, 13/03, 76/09 and 1/11) and the Law Establishing an Independent System Operator for the Transmission System of Bosnia and Herzegovina (Official Gazette of BIH, 35/04).

The ISO BIH is a holder of the licence for performance of the activity of an independent system operator pursuant to the Decision of the State Electricity Regulatory Commission (hereinafter: SERC), number 05-28-12-17-19/19 of 27 June 2019 (Official Gazette of BIH, 45/19).

According to Article 32 of the Tariff Methodology, the tariff for system service and ancillary services serves to cover costs of procuring frequency containment reserve, automatic frequency restoration reserve, manual frequency restoration reserve, replacement reserve, and the costs of

procuring electricity to cover losses in the transmission system and other costs pertaining to the system service.

Costs of providing the system service are determined on the basis of data included in the tariff application of the ISO BIH. When determining tariffs, SERC may also use additional data if it deems necessary.

While reviewing the tariff application through tariff proceedings, the basic principles prescribing that tariffs should be just and reasonable, non-discriminatory, based on objective criteria and justified costs and set in a transparent manner have to be respected to the maximum extent possible. An applicant seeking approval of a tariff is obligated to prove that the proposed tariff meets all the requirements of BIH laws and SERC rules and regulations.

The tariff proceedings for setting of the tariff for operation of an independent system operator and the tariffs for system service and ancillary services were initiated at the request of the ISO BIH, number 41/23 of 18 October 2023 (received on 31 October 2023 under number 04-28-5-336-1/23).

In the filed tariff application, the ISO BIH stated that according to the projected withdrawal of electricity from the transmission network in 2024 as well as the revenue requirement, the proposed tariff for system service in 2024 amounts to 1.0075 fening/kWh. While calculating this tariff, the ISO BIH did not take into account the amount accumulated on the basis of the balance of all services in the whole period of the use of the balancing mechanism.

The application also includes the planned physical scope of services in the transmission network in 2024, which relies on the data from the Power Balance in the BIH Transmission Network for 2024 according to which the planned delivery of electricity from the transmission system in 2024 amounts to 10,167,041,108 kWh, while planned generation of the power plants connected to the transmission network amounts to 14,549,330,387 kWh.

Following the documentation review, the completeness of the ISO BIH application was confirmed by the SERC Conclusion on initiating tariff proceedings for the operation of an independent system operator and tariffs for system service and ancillary services number 04-28-5-336-2/22 of 8 November 2023, of which the ISO BIH was informed accordingly by the letter number 04-28-5-336-3/23 of 8 November 2023, so it was possible to proceed with the tariff proceedings through evaluation of all submitted proofs with SERC keeping the right to ask for additional data and information if deemed necessary.

The ISO BIH application was resolved by conducting a formal public hearing pursuant to the Rules of Hearing Procedures (Official Gazette of BIH, 38/05), in accordance with the provision in Article 45 thereof, by a short notice in the daily newspapers and on its website SERC informed the public of a summary of the submitted application and the possibility to get familiarised with the application directly and submit comments on the subject of the tariff proceedings in writing, while the entire documentation of the tariff application was published on the SERC website. By the public notice the persons interested to participate in the formal hearing as interveners were also invited and asked to provide the evidence of their interest in writing beforehand, and the formal hearing on the application was announced.

After the submission of requests for intervener status, by its Conclusion number 04-28-5-336-10/23 of 15 November 2023, in order to hear their respective positions and interests SERC allowed the following entities to participate in the tariff proceedings in the capacity of interveners: MH "Elektroprivreda Republike Srpske" Parent Company a.d. Trebinje, JP "Elektroprivreda Bosne i Hercegovine" d.d. Sarajevo and JP "Elektroprivreda Hrvatske zajednice Herceg Bosne" d.d. Mostar.

None of the mentioned interveners used the right to have a direct insight into the complete documentation of the tariff application at the SERC premises.

A preliminary hearing on the submitted ISO BIH tariff application was held on 20 November 2023. At the preliminary hearing a list of questions to be discussed at the hearing was specified and the course of the formal hearing was defined. At the formal public hearing, which was held on 27 November 2023, the parties to the proceeding presented their respective proofs for the purpose of determining all relevant facts. Every question was processed by dividing the questions into thematic groups and by a successive reply of the applicant and comments thereon by the interveners and the Presiding Officer.

The Presiding Officer's report describes the course of the proceeding, offered proofs and established facts, relevant legal provisions and recommendations to the Commissioners (hereinafter: the Commission) and it was delivered to the applicant and the interveners whose status as such was legally acknowledged by SERC. An analysis of costs and revenues as presented in the Presiding Officer's Report confirmed, rejected or adjusted the individual items, values or methods used while preparing the tariff proposal in accordance with the SERC discretionary rights in the tariff proceedings.

The Commission concludes that the Presiding Officer's Report provided reasonable grounds for the Commission to pass its final decision on the tariffs for system and ancillary services based on the data provided, arguments and explanations as well as the comments of the ISO BIH made on the proposal of this report after the careful consideration and evaluation thereof. Regarding the subject-matter of this Decision, JP "Elektroprivreda Bosne i Hercegovine", d.d. Sarajevo in the capacity of intervener provided comments on the Presiding Officer's Report in which they expressed the position on the prudence of keeping the tariff for system service at the existing level and the awareness of the high level of prices on the regional market in the context of the costs of procuring electricity to cover losses in the transmission system. The ISO BIH did not express any position on the tariff for system service in its comments.

When passing a Decision on tariffs for system and ancillary services, the Commission has to focus its analysis on all elements of the cost structure as pointed out by the applicant, the analysis of costs and revenues as presented in the Presiding Officer's Report as well as on the applicant's and interveners' comments presented during the whole proceedings and pass a decision about the submitted application after a comprehensive analysis. In line with these obligations, the Commission presents the following points of view:

The results of annual procurement of ancillary services for 2024 indicate that the prices of reserves for all types of services have remained approximately at the same level as last year. Frequency containment reserve (FCR) was not procured in the required amount of 13 MW/h for the months 1st-6th, but in an amount of 8 MW/h, so the missing amount will be the subject of monthly procurements. The average price reached 7.05 BAM/MW/h, which is a 3.6% increase in comparison the average procurement price in 2023.

Automatic frequency restoration reserve (aFRR) was procured at the prices which were slightly higher than the prices reached in the previous annual procurement of this service. During the procurement, the price reached for the off-peak period (00-06 h) amounted to 42.89 BAM/MW/h (42.75 BAM/MW/h in 2023) and was very close to the price cap of 43 BAM/MW/h, while an average price for the peak period (06-24 h) amounted to 38.81 BAM/MW/h (37.56 BAM/MW/h in 2023). The aFRR for the peak period was procured for all hours of the year in the required quantities, except the quantities of 3 MW/h and 2 MW/h for the 9th and 11th month respectively. In the off-peak period for the 1st, 2nd and 6th month the annual procurement of a smaller amount of the required quantities was not done due to lack of bids so the missing quantities will be the subject of the monthly procurements.

Manual frequency restoration reserve (mFRR) was procured at the price which is lower in comparison to the previous annual procurement of this service on the market. An average price for upward and downward reserve decreased by 3.3% (from 5.16 BAM/MW/h to 4.99 BAM/MW/h) and 13.0% (from 1.61 BAM/MW/h to 1.40 BAM/MW/h) respectively. The required quantities of 196 MW/h of upward manual frequency restoration reserve were procured for all months. Downward mFRR was procured for the whole annual period in the required physical scope of 68 MW/h.

The procurement of energy for covering of losses in the transmission system in the planned amount of 347 GWh for 2023 did not result in the suitable offers by the suppliers. The indicative price set by the ISO BIH in the public procurement process for the first four months of 2024 amounted to 200 BAM/MWh, and according to the information submitted on 4 December 2024 by the ISO BIH the next market-based procedure will be organised for the procurement of energy for March and April. Under such circumstances the purchasing of energy for covering of losses in the transmission system in a regulated manner will be continued, which means that the ISO BIH should act in accordance of the provisions of the document titled “Procedure for regulated procurement of electricity to cover transmission system losses” with the electricity for losses being set at the level of the last accepted bid (the public procurement procedure for 2021 from December 2020) when the weighted average price amounted to 109.94 BAM/MWh. As the indicative price amounted to 200 BAM/MWh (102.26 €/MWh) in the latest public bidding, and taking into consideration the downward trend of the wholesale prices on the regional market (an average base energy price for November 2023 at the power exchange HUPX amounted to 99.37 €/MWh while the price of HUDEX Futures 2024 index amounted to 101.63 €/MWh on 18 December 2023), the conditions are being created to establish again the market-based manner of procuring energy for covering of losses in the transmission system.

The planned costs of ancillary services procurement in 2024 in the required scope for all services amount to BAM 88,070,921 in total. The breakdown of the procurement costs per service and month is presented in the following table (BAM):

Month	Frequency containment reserve	Automatic frequency restoration reserve during peak and off-peak periods	Upward manual frequency restoration reserve	Downward manual frequency restoration reserve	Electricity losses in the transmission system*
January	76,453	1,337,373	547,212	71,670	3,957,840
February	71,270	1,309,611	549,109	67,046	3,298,200
March	76,811	1,254,636	592,461	68,675	6,200,000
April	72,965	1,172,788	578,693	66,550	5,400,000
May	76,811	1,063,217	635,242	72,533	5,200,000
June	75,038	999,851	710,093	69,343	5,000,000
July	66,886	1,176,506	1,038,215	71,655	5,400,000
August	66,796	1,085,384	1,034,755	71,655	5,000,000
September	64,238	1,099,818	1,023,732	67,889	4,800,000
October	66,707	1,187,042	729,765	70,246	5,400,000
November	63,374	1,304,022	568,901	68,062	6,000,000
December	65,755	1,348,688	588,980	70,360	7,800,000
Total	843,106	14,338,936	8,597,157	835,682	63,456,040

*The cost of procuring electricity to cover losses in the transmission system for January and February were calculated at the price of 109.94 BAM/MWh and at the price of 200 BAM/MWh for other months

The tariff calculation is based on the bids and results of the completed bidding procedures of the ISO BIH for 2024, an assessment for procurements to be conducted later during 2024 as well as the trends of income and costs in the period January 2016 – December 2023, which is presented through the balance of services in the following table:

1.	Frequency containment reserve (BAM)	843,106
2.	Automatic frequency restoration reserve (BAM)	14,338,936
3.	Upward manual frequency restoration reserve (BAM)	8,597,157
4.	Downward manual frequency restoration reserve (BAM)	835,682
5.	Total amount of frequency containment and restoration reserves in 2024 (BAM) 1. to 4.	24,614,881
6.	Total amount for energy for transmission losses in 2024 (BAM)	63,456,040
7.	Total planned costs in 2024 (BAM) 5.+6.	88,070,921
8.	Balance of services in 2016 (BAM)	9,532,806
9.	Balance of services in 2017 (BAM)	4,716,024
10.	Balance of services in 2018 (BAM)	-9,964,041
11.	Balance of services in 2019 (BAM)	-774,077
12.	Balance of services in 2020 (BAM)	6,912,629
13.	Balance of services in 2021 (BAM)	7,867,228
14.	Balance of services in 2022 (BAM)	25,645,915
15.	Correction of values for uncollected receivables in 2020	-3,166,714
16.	Correction of values for uncollected receivables in 2021	-2,984,173
17.	Balance of services in 2023 with an estimate for December (BAM)	15,500,000
18.	Balance of services in the previous period (BAM) 8. to 17.	53,285,957
19.	Income based on balance of imbalances, balancing energy and FSKAR calculation (BAM)	10,000,000

According to the data in the table above, it is possible to make a correction of the tariff for system service. However, taking into consideration that there is possibility of procuring energy for covering of losses in the transmission system in a market-based manner in the forthcoming period at the prices which are considerably higher compared to the prices at which energy was procured in the past, that an amount of approximately one (1) million BAM is continuously dislocated to the account of the Indirect Taxation Authority of BIH due to legal obligations, that the amounts on monthly invoices per calculation of deviations towards the SHB LFC Block are measured in millions of BAM (FSKAR calculation), respecting the precautionary principle due to a high number of variables affecting the revenues and expenditure in the balancing mechanism, the tariff for system service is kept at the level of 0.4789 fening/kWh.

As revenues and expenditures depend on a high number of factors such as electricity consumption, that is, withdrawal of electricity from the transmission system, a physical scope of losses in the transmission system, a wholesale price of energy for losses, the scope of provided ancillary services in comparison to the planned one, the price of control energy and engagement thereof, prices and scopes of imbalances, the application of the tariff will be monitored continuously as well as the trends of revenues and expenditures and developments on the balancing market, and an adjustment of the tariff for system service will be initiated when appropriate.

Under Article 33 of the Tariff Pricing Methodology, generating units connected to the transmission network maintain the voltage within prescribed limits at their own expense in accordance with the Grid Code and their operational charts and, exceptionally, in a situation with increased voltage levels in the transmission system, SERC may prescribe a compensation to be paid to generating units for operation in the capacitive (under-excited) regime providing that the ISO BIH carries out an analysis indicating that such regime of operation of generating

units substantially contributes to keeping the voltage levels at 400 kV and 220 kV nodes within the limits prescribed by the Grid Code. Due to lack of this analysis, it is determined that the coefficient of compensation for operation of generating units in the capacitive regime amounts to zero ($k_{RG} = 0$), which means that compensation for operation of generating units in the capacitive regime also equals zero.

Taking into account that the problem of reactive power surplus causes high voltage in the transmission system, in the 220 kV and 400 kV networks in particular, and given that the required investments in the relevant infrastructure have not been made (shunt reactors) in the past period, which would resolve the issue of the existing surplus of reactive capacity and power in the transmission system, the Commission is of the opinion that it is not justified to charge excessive withdrawal of reactive power. The price coefficient for excessive withdrawal of reactive energy from the transmission system is set to zero ($k_R = 0$) as in a situation with increased voltage levels in the transmission system and the existing surplus of reactive power and capacity, withdrawal of reactive energy from the transmission system has a positive impact on the voltage levels and in this manner withdrawal of reactive energy is further stimulated. In line with the aforesaid, the price for excessive withdrawal of reactive energy from the transmission system is set to zero (0) fening/kvarh.

Taking into consideration the fact that the balancing market in Bosnia and Herzegovina is one of rare functional markets in the region of Southeast Europe and that the trends on the regional wholesale market have the significant impact on its operation and prices of services, SERC will continuously monitor the implementation of this decision and make adjustments of the tariff for system service if needed.

Pursuant to Article 14 of the Rule on Tariff Proceedings, the applicant as a regulated entity is obligated to enable public access to the officially approved tariff by making tariffs approved by a decision accessible to the public at its main business office during working days and publishing them on its website.

Pursuant to Article 9.2. of the Law on Transmission of Electric Power, Regulator and System Operator of Bosnia and Herzegovina, proceedings may be initiated before the Court of Bosnia and Herzegovina against this Decision by filing a lawsuit within sixty (60) days of receipt thereof.

Number: 04-28-5-336-29/23
20 December 2023
Tuzla

Chairman of the Commission
Nikola Pejić