

## **METHODOLOGY FOR CALCULATING THE TARIFFS IN THE ELECTRICITY DISTRIBUTION SYSTEM OPERATOR**

### **Article 1**

#### **Legal Basis**

This methodology is drafted implementing articles 7, 19, 20, 21, 22, 35, 45, 46, 68, 69, 70,72, 75 and 76 of Law no. 43/2015 “On Power Sector ”, Council of Minister Decision No. 244 of date 30.03.2016 “On approving the conditions for imposing public service obligation, that shall be implemented to the licensee on power sector, which exercise electricity generation, transmission, distribution and electricity supply activity”, Council of Minister Decision No. 519, of date 13.07.2016 “On approving the electricity market model”, articles 21 and 22 of the "Regulation on ERE Organization, Operation and Procedures” approved with ERE Board Decision No.96, of date 17.06.2016, "the Regulation on the procedures of submitting and approving the investment plan from electricity transmission and distribution operators" approved with ERE Board Decision No.135 of date 06.09.2017, as well as other by-laws approved by ERE.

### **Article 2**

#### **Purpose**

The purpose of this methodology is to set principles, conditions and procedures for the tariff of using the distribution network based on the principles of calculating these tariffs accessing the data for a fair tariff.

### **Article 3**

#### **Objective**

The objective of this methodology is to set the access tariffs for using the distribution system implementing Law 43/2015 “On Power Sector”.

## Article 4

### Definitions

The terms used in this methodology shall have the same meaning as the one defined on Article 3 and as follows Law No.43/2015 “On Power Sector”, as well as other by-laws approved by ERE. The other terms used in this methodology have the following meanings:

1. **Annual adjustment factor** – a percentage equal to the inflation factor minus the efficiency improvement factor.
2. **Average distribution tariff** – shall mean the average revenue in kWh for a 12 month period, calculated as the total revenue from the payments related to the capacity, payment related to electricity and the fix month payments, divided by total kWh delivered from the Distribution system to the end-use customers.
3. **Average distribution tariff ceiling** – shall mean the maximum permitted level of the average distribution tariff for a specific 12 month period.
4. **Base distribution tariff** – the value of the distribution service tariff determined according to the costs in the base year.
5. **Base year** – the first year of a regulatory period
6. **Test year** – a 12-month period prior to the regulatory period, which is used as a basis for defining the required revenues for the base year for the distribution system operator.
7. **Differentiated tariffs** – shall mean the tariffs for the customer services of the distribution network users that include payments related to fix monthly payments and the payments for the capacities and the electricity for the customers according to the voltage levels.
8. **Efficiency improvement factor (X factor)** – shall mean the annual percentage reduction in the distribution service cost resulting from improvements in the network operation efficiency and improvements in technology.
9. **"Cap" regulation** shall mean the use of the regulatory periods in which the revenues or the maximum price of the licensee is regulated during these regulatory periods.
10. **Regulated asset base (RAB)** – the value of fixed assets as defined in Article 8 of this methodology.
11. **Regulatory period** – a multi-year period in which the prices or revenue requirements are permitted to change at specific rates/level.
12. **Distribution system** – the distribution system shall mean the system of lines, supporting

structures, transforming and switching equipments, used for electricity distribution and its delivery to the customers, excluding the supply.

13. **Customer** – shall mean the wholesale or end-use customer for electricity
14. **End-use customers** – shall mean a customer that purchases electricity for personal use.
15. **Energy Regulator Authority** – shall mean the regulatory institution for electricity and natural gas sectors, which operates according to Law No. 43/2015 “On Power Sector” and Law No.102/2015 "On Natural Gas Sector".
16. **Network losses** – The difference between the amount of electricity delivered to the electricity network and the amount of electricity withdrawn from the electricity network over the respective time period.
17. **Distribution System Operator for Electricity (DSO)** – or “OSHEE sh.a” is the legal entity, responsible for the operation, maintenance and distribution system development, to ensure the long-term ability of the system to meet the reasonable requirements for electricity distribution, in harmony with the environment and the efficiency.
18. **System users** - shall mean the legal, physical entities, supplying or being supplied with electricity by the transmission or distribution system.
19. **Universal Service Supplier** – or (USS) is the Supplier charged with universal service obligation of the supplier, as public service obligation, which supplier only end use customers, within the territory of Albania, with regulated prices, easily and clearly comparable, transparent and not discriminatory, according to the conditions defined by ERE.

## **Article 5**

### **General rules and the basic principles**

1. This methodology is drafted implementing Law No 43/2015 “On Power Sector”, as well as other effective legal acts in the Republic of Albania.
2. Non-compliance with each part of this methodology may result in refusal by ERE of the electricity distribution company tariff application of the Distribution System Operator for electricity.

3. “Price cap” regulation is applied for the average revenues permitted of the electricity distribution service. The regulator approves the average distribution tariff. If the average distribution tariff ceiling for any voltage level defined according to the historic data for one of the years in the tariff review cycle exceeds the average permitted distribution tariff ceiling set by ERE for each voltage level, DSO shall reduce the average distribution tariff in the next year for that voltage level so that the customer and the distribution system users in a defined voltage level receive a refund of the amount of excess revenues collected (over-repayment amount).
4. All sources of DSO revenues defined in this tariff methodology are paid by the users of the distribution system.
5. The distribution tariff shall:
  - a) Liquidate the costs of ownership, construction, operation and line as well as cable maintenance costs, those of the transformer substations and the facilities related to them.
  - b) This tariff shall reflect the actual service cost for each customer category according to the voltage level.
  - c) The distribution tariff shall be defined in such a way that it does not permit cross-subsidies between customer categories.
  - d) To the end use customers shall be distributed the costs of energy losses depending on the voltage level where they are supplied. The electricity used by the customers that are not measured at their commercial point of service delivery shall be regulated in such a way to cover the energy losses from the commercial delivery point to the metering point.
  - e) Electricity purchase costs necessary to cover the losses in the distribution network (according to the objective defined by ERE according to this methodology) is included in the electricity distribution service tariff according to the voltage level.
6. The “RPI-X” approach is used to give DSO a promotion to reduce its costs during the tariff review cycle.
7. Regulatory period; the duration of the cycle to review the distribution tariff is three

years. If the average distribution tariff ceiling according to the voltage levels for the following reviewed tariff cycle is not approved before the termination of the three year period, the regulator may approve a decision to extend the cycle of reviewing the tariffs to four years.

8. the cycle to review the distribution tariff and the cycle to review the transmission tariff shall begin on the same date.
9. Long-term debt financing shall be used to finance the new capital expenditures to the extent possible, but shall not be used to cover the operation costs.
10. The tariffs shall reflect the current costs of service for any/each user of the distribution system and shall give signals to efficiently use the distribution network.
11. The costs included in the tariff shall be transparent for the interested parties.
12. The tariff shall permit the DSO to have a reasonable return on regulated asset base.
13. The tariffs shall be relatively sustainable on time.
14. First regulatory period according to this methodology begins on 1 January 2018
15. ERE shall approve the table forms for the tariff application. DSO shall use this table forms approved by ERE to prepare the tariff application for a regulatory period. The table form may be modified as long as the information is organized in a similar way and the detail of the information is not less than the approved one for the standard tables. The tables shall show the results of the testing year, the regulations made for the testing year and for the base year, including not only the expenses of the company, capital expenses and the regulated basis of the assets for the regulated service.
16. In preparing the tariff application DSO shall attempt to submit all costs accurately up to 100,000 ALL. The regulator shall not discuss the figures less than 100,000 ALL except when there is a disagreement on the compensation or the payment for specific physical persons.

**Article 6**  
**Electricity and the electricity balance sheet**

1. The electricity balance of the DSO company for the base year shall be prepared by calculating the total sum of energy in GWh delivered from the distribution network during the base year. This total is equal with the energy received from the transmission system, the generating resources connected with the distribution system. The total received energy shall be allocated into:
  - a) energy delivered to the Universal Service Supplier (FSHU)
  - b) energy delivered to the end use customers
  - c) electricity losses in the distribution network
  - d) electricity consumed by DSO for personal needs.
  
2. The coincident peak load flow of DSO balance shall be calculated estimating the total power in MW received from the distribution system in the peak hour. This total is equal with the energy received from the transmission system plus the energy received from the generation plants connected with the distribution system. The total received energy shall be allocated into:
  - a) energy delivered to the Universal Service Supplier (FSHU)
  - b) energy delivered to the end use customer
  - c) losses in the distribution system
  - d) electricity consumed by DSO for personal needs
  
3. The distribution company shall calculate the total sum of non-coincidental loads for the customer group according to the voltage level.
  
4. For each of the last ten years, electricity losses in the distribution system must be shown as a percentage of energy received from the distribution system.

## **Article 7**

### **Revenue requirement for the Base Year**

1. The test year expenses for setting the costs for the base year are according to the accounting information in conformity with the Uniform Accounts System approved by ERE or National Accounting Standards. The testing year shall be a representative 12 months historical period of the company operating costs. ERE during the review of the tariff application has the right to contract independent experts for performing a control of the accounting information for the DSO test year.
2. DSO may propose changes of the expenses results for the testing year to set the tariff for the base year of the next regulatory period. Any such change may be known (as a special article) and measurable (quantifiable). The planned funds to cover the costs of uncertain/unforeseen events shall not be approved by ERE.

ERE shall consider the regulations in the test year such as:

- a) change of the request;
  - b) inflation;
  - c) changes in the contract price;
  - d) taxes and insurances changes;
  - e) number of the customers served;
  - f) increased level of the regulatory asset base;
  - g) cost of capital;
  - h) level of the depreciation expense;
  - i) efficiency factor
  - j) other revenues
3. DSO shall provide justifications for each foreseen adjustment/correction to the test year results. These adjustments shall be specified on the table submitted by DSO in the application for tariff, as well as the written evidences providing the justifications and the level of each adjustment/correction.
  4. For the regulated activity according to “price cap” approach, the Distribution System Operator shall provide the estimated/foreseen regulation factors that shall be included each year of the regulatory period. These factors shall include:

- a. Average annual cumulative regulatory asset base for the regulatory period;
- b. Total energy losses;
- c. Annual inflation factor;
- d. Annual factor of improving the efficiency.

5. Revenue requirements for the base year shall be calculated as follows:

$$\mathbf{RR = C + (RAB * WACC)}$$

where:

**RR** - are the annual revenue requirements;

**C** - the allowed annual costs of operation for the licensed activity,

**RAB** - the Regulatory Asset Base;

**WACC** – Weighted Average Cost of Capital before the taxes

$$\mathbf{WACC = [ES * ARoE / (1-T)] + (DS * CoD) ES}$$

$$\mathbf{+ DS = 1}$$

where:

**ES** - Target for equity ration of the RAB

**T** - Corporate Tax Rate

**ARoE** – Allowed return of equity after tax

**DS** - Target for debt ration of the RAB

**CoD** - Cost of Debt

6. Payments regarding leasing (for example, motor vehicle leasing) may be included in the operational expenses.

7. The operating costs of the distribution system operator included in the revenue requirements for the licensed services shall be specified analytically in the application for tariff.

8. The distribution system operator shall submit at ERE for approval the average level of electricity losses for each voltage level in the distribution network. The purchase cost of the energy/capacity to satisfy energy losses shall be an operating expense of DSO according to the levels permitted by ERE, which shall be allocated to the service for using the network at various voltage levels.
9. The losses cost shall be accessed with the electricity purchase price defined according to point 4 article 5 and point 2 article 11 of Council of Minister Decision No. 244 of date 30.03.2016.
10. Revenue requirements shall not be included in the payments for the fines and sanctions.

### **Article 8**

#### **Return on Regulatory Asset Base**

1. The regulatory asset base for a licensed service includes both tangible and intangible assets minus the accumulated depreciation plus a working capital component. The RAB is calculated according to the following formula:

$$\mathbf{RAB = A - CG - D + WC + INV}$$

where:

**RAB** Regulatory Asset Base;

**A** - the recognized value of used and useful assets at the beginning of the regulatory period;

**CG** - the value of assets obtained through donation or constructed with the financial resources of the electricity consumers;

**D** - the accumulated depreciation for the past period of asset used to perform the licensed activity; Depreciation for new investments during the regulatory period shall be equal with the average annual cumulative depreciation for the middle of the year;

**WC** - the working capital requirement;

**INV** - the foreseen average cumulative nominal amount for the middle of the year,

approved by ERE that shall be invested during the regulatory period.

2. ERE shall approve the RAB for the base year. Not all assets of the distribution system operator may be included in the Regulatory Asset Base for the licensed service. Assets that do not support the licensed service shall be excluded from the regulatory asset base. Examples of excluded assets are the assets used for non-licensed activities, entertainment devices/tools.
3. On the Regulatory Asset Base shall be included the value of the investment approved by ERE in conformity with the regulation on the procedures of submitting and approving the investment plan, which support the distribution system operator services. The DSO shall submit at ERE written evidence on the allocation of the proposed investment program for each year of the regulatory period.
4. ERE shall review the realized investments against the planned/approved ones each year and correct the tariffs in case DSO fails to implement the investment plan.
5. Distribution system operator shall show the calculated accumulated depreciation for all assets that are included in the regulatory asset base (RAB) through the last year of the current regulatory period and proposes a depreciation assessment for the base year of the next regulatory period.
6. The regulatory or future use assets are expenses that are not carried out periodically that should be covered by DSO during a defined period of time.
7. ERE shall implement the fiscal system in calculating the depreciations for regulatory purposes, but may decide other depreciation norms in special cases. Asset depreciation may be based even in an asset depreciation study submitted by the distribution system operator, which shall show the lifetime of the assets according to the category based on a technical study.
8. The distribution system operator shall submit proposals for the amortization of non-tangible assets and the assets kept for future/regulatory usage.
9. The permitted working capital value in the regulatory asset base shall be according to a study of the funds required to maintain a suitable level of material and supplies and the cash required to meet current obligations and to maintain minimum back accounts. Any such study shall be included in the price application by the Distribution System Operator.

In absence of the study, the distribution system operator may submit written evidence justifying this estimate. In any case, the working capital shall not exceed 1/12 of the Operational Expenses.

10. Rate of return for the distribution system operator shall not reflect any assets acquired through donation.
11. To calculate the rate of return over the its own Capital shall be used Capital Asset Pricing Model or other methodologies, where shall be taken into consideration a number of factors, including: (1) comparisons with other companies that have the same risk; (2) attraction of the capital; (3) current financial and economic conditions; (4) capital cost; (5) enterprise risk; (6) the financial policy and the capital structure of the company; (7) management competence; and, (8) the financial history of the company.
12. For calculating the debt cost in the WACC calculation model shall be based on the interest rates for the unpaid debt of the distribution system operator. The interest rated used for determining revenue requirements may or may not be the same with the current debt interest rates. The distribution system operator shall show that the debt interest rates are in conformity with the debt commercial interest rates accepted by other companies with similar credit risks. Any debt included in the calculation of average debt interest rate, that has an interest rate higher than the current level of the market shall be regulated downward to the market level.

## **Article 9**

### **Services and Customer Groups**

1. The distribution system operator shall provide the use-of-network services, metering and meter reading, meter disconnection and reconnection, reactive power compensation, and the new connection services.
  - 1.1. **Use of network** – DSO shall provide access to the network for the distribution network customers. The DSO shall set to these customers a capacity charge and an energy charge. The energy charge for DSO customers shall include the energy losses in the distribution system, while the capacity charge shall be allocated according to the standardized profiles of the charge for each customer group.

- 1.2. **Metering and meter reading** – DSO shall operate and maintain all metering facilities and read the meters as required for the retail customers connected to the distribution network.
  - 1.3. **Meter disconnection and reconnection service** - DSO, upon the request of the Universal Service Supplier (FSHU) or other suppliers or at its own will, disconnects a customer for non- payment or other violation in accordance with the supply rules. The reconnection shall be as specified in the customer service rules.
  - 1.4. **Reactive power compensation** – DSO shall charge all customers above 50 kVA for reactive power compensation. The calculation for charges, if any, during a month as provided below in Section 11 below.
  - 1.5. **New connections** – The charge for the new connection shall be defined for the retail sale customers in conformity with the new connection regulation approved by ERE.
2. The end use customers, which are not supplied by the Universal Service Supplier (FSHU) shall be individually invoiced by the distribution system operator.
  3. The service customers that use the network shall be divided in customer categories based on the connection voltage level. Some customer sub-categories may be created within each voltage level.

## **Article 10**

### **Allocation of costs to energy and capacity use of network charges**

1. Each customer shall pay an energy charge, in ALL/kWh, based on the number of kWh delivered from the distribution system to the customer during that month.
2. Customers with the appropriate type of meter shall also pay a capacity charge for distribution, if appropriate, in ALL/kW/month, based on the higher of the customer's non-coincidental peak load during the 12-month period ending with the invoicing month or its contractually guaranteed capacity. A fine may apply for any non-coincidental peak demand excess above the contractually guaranteed capacity.
3. In a tariff application, the distribution system operator shall provide for each tariff and non tariff customer category (according to the 35/20/10/6/0.4 kV voltage level in medium and low voltage) the information as follows:

- a. An estimate of the total delivered capacity in kW required to provide a reliable supply of electricity to customers in that customer category.
  - b. The total energy in kWh that shall be shown in tariff customers and non-tariff customers invoices for each month of the base year, and the sum of these monthly totals.
  - c. A foresee of the distribution losses charged to end use customers at each voltage level (the cost of losses shall be included in the energy charge (variable cost) for each customer category).
4. The fix cost of the required revenues is allocated for each end use customer category on the base year. The fee capacity, in ALL for kW per month, equals:

$$\mathbf{P_{capacity} = Allocated\ Fix\ Costs / L}$$

Where,

**L**- total delivered capacity, kW

5. Energy-related costs on the required revenues are allocated for each end use customer category (in medium and low voltage).

The price of energy, in ALL per kWh, equals:

$$\mathbf{P_{energy} = Allocated\ Variable\ Cost / E}$$

**E** -total energy in kWh that shall be indicated in end use customer categories during the base year

6. The allocated variable cost for the customers shall include the cost to ensure the energy losses, allocated according to voltage levels.
7. For the customers whose meter measures only the active electricity consumption in kWh, the price per kWh is calculated in a way to cover the capacity related costs and the energy related costs:

$$\mathbf{P_{average} = (Allocated\ Fix\ Cost + Allocated\ Variable\ Cost) / E}$$

where:

**E** - total energy in kWh that shall be indicated in the respective invoices of end use customers during the base year

8. The Distribution System Operator may submit at ERE an application for peak/off peak energy prices in the system tariff for using the network. In this application there will be two values of energy: (i) one corresponding to peak periods (where losses in the network are higher and the value of energy is higher), and (ii) one corresponding to off-peak periods (where the losses in the network are lower and the value of energy is lower). In other aspects the tariff methodology shall be equal. The Distribution System Operator shall explain in its tariff application the costs and the benefits of implementing the peak and off-peak tariff structure for using the distribution network. The peak and off-peak approach requires more expensive meters, that may be justified only by peak and off-peak price differences for the generated and imported energy and regarding the peak and off-peak prices applied by the Universal Service Supplier (FSHU), may be justified the purchase of the required meters.

## **Article 11**

### **Metering related Services**

1. The Distribution System Operator shall provide metering services to the Universal Service Supplier and to other suppliers.
2. The DSO shall charge the suppliers with a metering service and meter reading charge for each customer that is supplied with energy by the suppliers. All costs related to the installation, operation, maintenance, calibration and reading of wholesale and retail customer meters shall be included in the allocated revenue requirements for this service, separated by voltage level. The price shall be determined by dividing the total requirement of the incomes in a particular voltage level with the number of customers connected at that voltage level.
3. The DSO charges payments for the disconnection and the reconnection of the meters. The revenue requirements for such service shall represent the annual average cost for providing this service. There is one price at the reconnection time that shall include the

disconnection cost, which shall be pre-paid before the reconnection. The required revenues allocated for the disconnection and the reconnection shall include the expenses regarding the work, transport as well as other administrative expenses related with the performance of this service.

## **Article 12**

### **Setting the average distribution tariff ceiling**

1. For the base year, the average distribution tariff ceiling is equal to the average distribution tariff calculated according to costs in the base year.
2. For the second year of the tariff review cycle (Year 2), each component of tariff to use the distribution network for the base year is multiplied with the annual adjustment/correction factor:

$$\mathbf{A = (1 + RPI - X)}$$

where:

- A** - annual adjustment/correction factor
- RPI** - rate of customer price inflation for Year 2 according to the National Bank of Albania, or INSTAT publications.
- X** -efficiency improvement factor set by ERE

3.The ERE shall add this formula a performance improvement (Q) factor based on the quality of supply of end-use customers. Such performance improvement factors shall be defined very clearly and simply and the distribution system operator shall provide an assurance to ERE that the distribution system operator is able to provide the quality of supply data needed to accurately measure its performance improvement.

4. The value of X shall include at least four categories of expenses: direct and indirect work. Work productivity, procurement and technology. Technology shall include the implementation of management systems and the reduction of the technical losses.
5. For each succeeding year of the regulatory period, the distribution tariffs for the previous year are multiplied by an annual adjustment factor as was done in the second Year.

### **Article 13**

#### **Reactive Power Charge**

1. Reactive power compensation is normally an ancillary service provided by generators to the TSO and therefore reactive power charges are part of the Transmission System Operator tariff. If the distribution system operator continually fails to meet its voltage standard set at the interconnection between the transmission and distribution network, TSO may charge the distribution system operator reactive power penalties. The Distribution System Operator may install reactive power capacity or reactors as the need requires paying the penalty to the transmission company.
2. Also, the distribution system operator has the right to require a distribution network customer to maintain a certain power factor at the interconnection with the distribution network.
3. The consumers with a 50 kVA capacity and more pay an addition over the value of the active electric power depending on the reactive electric power used and released at average monthly capacity factor less than 0.9 during the day and peak daylight zone.

4. The quantity of used reactive electric power, for which an allowance is paid under Section 3 of this article is the positive difference between the quantity of used reactive electric power and the product of the quantity of used active electric power and a coefficient corresponding to the average monthly power factor, according to the formula:

$$E_{r \text{ alwn}} = E_{r \text{ used}} - (E_{a \text{ used}} \times (1 - F))$$

where:

**$E_{r \text{ alwn}}$**  is the quantity of reactive power which is paid, kVarh;

**$E_{r \text{ used}}$**  the quantity of reactive power consumed by the customer during the daytime zones;

**$E_{a \text{ used}}$**  the quantity of active power used by the consumer by daytime zones, determined through the readings of the device for commercial metering of active power, kWh.

**$F$**  = 0.9, for reactive power consumption not charged between 1 and 0.9 power factor.

5. The customers under Section 3 article 13 pay an amount for the reactive power ( $E_{r \text{ alwn}}$ ) determined according to Point 4 article 13 at a price of 1 kVarh, equal to a [ ] percent of the regulated public supply price for kWh of active power for the respective daytime and the respective voltage level.
6. The consumers under Section 3 article 13 pay an amount for the quantity of reactive power released throughout the peak hours, determined according to the readings of the commercial metering devices, at a price for 1 kVarh, equal to the regulated public supply price for 1 kWh peak active power for the respective voltage level.
7. Whenever the consumers under Section 3 article 13 generate electricity and heat under combined generation cycle, they do not pay to the distribution system operator an amount over the released reactive power produced through combined generation cycle.

## **Article 14**

### **Deadlines**

Based on this methodology, the Distribution System Operator shall submit to ERE a request for the approval of new tariff, in conformity with the “Regulation on ERE Organization, Operation and Procedures” approved with Decision No.96 of date 17.06.2016.

## **Article 15**

### **Final provisions**

The Methodology for Calculating the Distribution System Operator Tariff is approved by ERE Board with Decision no 182, of date 10.11.2017.

The Methodology approved with decision no. 79, of date 26/06/2008 is abrogated.