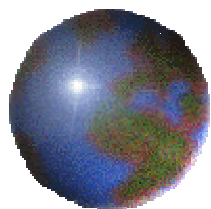


Partneriteti ndermjet IURC dhe ERE



# *Development and Approval by ERE of the Methodologies for Power Fees*

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Commissioner  
ERE-Albania

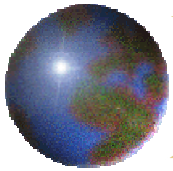
October 2005



# *Legal Base*

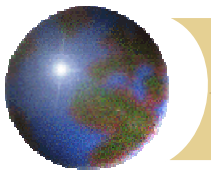
The law 9072, dated 22 May 2003 “Electric Power Sector”

- Article 8, paragraph 2(b) envisages that ERE defines and arranges the retail and wholesale prices, the terms and conditions of power service, proposed by the licensee and reviews them in compliance with the circumstances;
- Article 26 determines the authority of ERE to set fees, according to which :
  - ERE is the responsible institution for setting fees on all the activities carried out by the licensees in the sector of electric power.
  - In six months time from the entry into force of this law, ERE drafts and approves regulations on the procedures and standards, in compliance with which it approves, alters or refutes the fees, deadlines and terms of the power service.



## *Methodology on Fees to KPGJ-se??*

- ⊕ Fix prices for a year. Pay off costs of the basic year
- ⊕ No adjustment for hydrologic and uncontrollable costs
- ⊕ Fix costs are allocated in compliance with the capacity payments
- ⊕ Hydro generation costs in Albania is very low, therefore there is no need for KPGJ?? to reduce costs
- ⊕ In a competitive market the generating price may change every day. ERE cannot adjust prices that change every day
- ⊕ If KPGJ-ja collects fix costs through the capacity payments, there is no need to adjust this cost for hydrology



## *Methodology of fees of KPGJ (continued)*

**Cost to be estimated in the KPGJ fee are :**

$$\mathbf{RR = Ccapital + Cooperative + Ctaxes}$$

where:

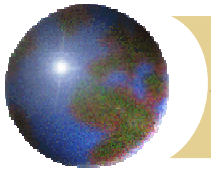
$$\mathbf{Ccapital = R + D - A}$$

Ccapital – component related to the revenues from the capital intended for the basic year

R     - capital return

D     - depreciation of fix assets and depreciation of other assets

A     - revenues from supplementary services, that are collected by OST and represent a payment for supplementary services except for the balancing power



## *Methodology of Fees of KPGJ (cont.)*

- ✚ Capital return is calculated with the formula

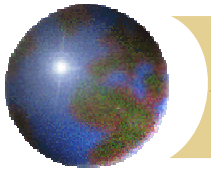
$$\mathbf{R = B * r}$$

where:

**B** – The Basic Asset Regulated at the beginning of the basic year of the fee review cycle

**r** - allowed return rate of the Basic Regulated Asset

where:  **$B_i = B_{i-1} + \text{Investment} - \text{Depreciation}$**



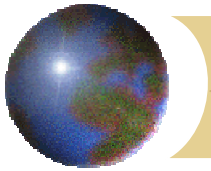
## *Methodology of Fees of KPGJ (cont.)*

- ✚ The allowed return rate of the Basic Regulated Asset is calculated from the allowed return rate of its own capital in the basic year, an average estimated interest rate for the long term loan during the basic year and the ratio loan/its own capital. The allowed return rate of the Regulated Basic Asset is :

$$r = roe * (1-d) + i * d$$

where:

- roe** - the allowed return rate following the taxes on its own capital; a target set by the regulator
- d** - the loan ratio – as a ratio of the long term loan with the long term assets established by the regulator and is applied to the Regulated Basic Asset
- i** - ponderable average of the interest rate of the long term loan



## *Methodology of Fees of KPGJ (cont.)*

The requests for revenues are covered by the capacity payments and power payments :

$$\mathbf{RR = C_{capacity} + C_{power}}$$

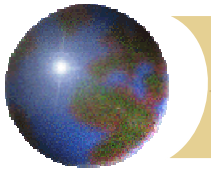
Where:  $\mathbf{C_{capacity} = C_{capital} + C_{profit\ tax} - 0.65\ X}$

$\mathbf{X}$  = revenues from export = exported quantity x average price for exported kWh

$$\mathbf{C_{power} = C_{measurement} + C_{maintenance} + C_{salaries} + C_{fuel} + C_{external\ sources} + C_{social\ taxes} + C_{property\ tax} + C_{ERE}}$$

The average tariff for KPGJ for 12 month period is :

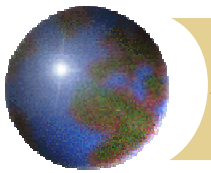
$$\mathbf{P_{average} = RR / E = (C_{capacity} + C_{power}) / E}$$



## *Methodology of transmission fees*

- ⊕ Price ceiling for three years
- ⊕  $RPI - X$ , without adjustment for uncontrollable costs
- ⊕ If OST may reduce the power network losses or reduce costs, it will increase the profit
- ⊕ If OST allows the increase of power network losses, OST will not be allowed to make the customers pay for the “remainder”
- ⊕ The formula  $RPI-X$  should become effective in three years without the ERE intervention . OST will “keep” every additional profit
- ⊕ “Price-cap” method is common in Europe related to the network service tariffs.





## *Methodology of transmission fees (cont.)*

The costs calculated in the OST tariff are :

$$\mathbf{RR = C_{capital} + C_{Cooperative} + C_{taxes}}$$

where:

$$\mathbf{C_{capital} = R + D}$$

$C_{capital}$  – the component of revenues related to the capital intended for the basic year

$R$  - capital return

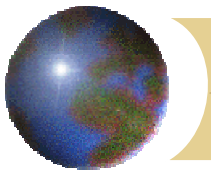
$D$  - depreciation of fixed assets and the depreciation of other assets

The capital return is estimated via the following formula :

$$\mathbf{R = B * r}$$

$B$  - The Basic regulated Asset at the beginning of the basic year of tariffs review cycle

$r$  - The allowed return rate of the Basic regulated Asset.



## *Methodology of transmission fees (cont.)*

The operating cost will be :

$$\text{Cooperative} = \text{Cmeasuring} + \text{Cmaintenance} + \text{Csalaries} + \text{Closses} + \text{Ctek} + \text{Coutsource}$$

**Cmeasuring** – the measuring cost of electric power and the power provided to the client of the transmission system and the costs for billing and pay off the accounts with the clients of the transmission system]

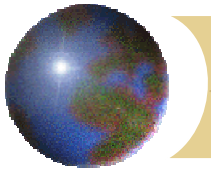
**Cmaintenance** - spare parts, supplies, means, fuel and other maintenance costs; this component excludes the maintenance costs allocated to Cmeasuring

**Csalaries** - salaries, social and health insurance (different from taxes) related to the programs for the employees' benefits; this component excludes the salary costs allocated to Cmeasuring

**Closses** – a payment for the real economic cost of all losses of electric power in the transmission network, including losses related to export and transit

**Ctek** – a payment for the real economic cost of the power consumption for technological purposes ; this is similar to the network payment

**Coutsource**- expenses for professional services including accounting, lawyers, financial advisors, consultants, IT experts and the advertising agencies (excluding the expenses that have already been included in the salaries)



## *Methodology of transmission fees (cont.)*

Sharing of costs in capacity, power and fix monthly payments :

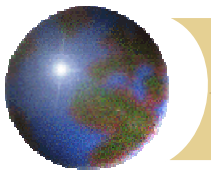
- Total revenues collected through the capacity payments in the basic year equals:

$$C_{\text{capacity}} = C_{\text{capital}} + C_{\text{profit tax}}$$

Capacity payment in lek per kWh in a month is:

$$P_{\text{capacities}} = C_{\text{capacities}} / L$$

Where L- the amount of total monthly capacity indicated in the client's bills of the transmission system during the 12 months of the basic year



## *Methodology of transmission fees (cont.)*

The total revenues collected through the power payments in the basic year equal:

$$C_{\text{power}} = C_{\text{maintenance}} + C_{\text{salaries}} + C_{\text{losses}} + C_{\text{tek}} + C_{\text{outsource}} + \text{social taxes} + C_{\text{property tax}} + C_{\text{profit tax}} + C_{\text{ERE}}$$

The power payment in lek per kWh is equal to:

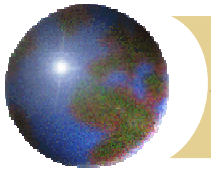
$$P_{\text{energy}} = C_{\text{energy}} / E$$

E – total power in kWh to be indicated in the customer's bills of the transmission system during the basic year

The total revenues to be collected through the fix monthly payments in the basic year equal the  $C_{\text{measuring}}$

The fix monthly payment in lek for delivery point equals:

$$P_{\text{monthly}} = C_{\text{measuring}} / N$$



## *Methodology of transmission fees (cont.)*

For the basic year the fee will be equal to the average fee estimated based on the cost of the basic year.

$$P_{\text{average}} = (C_{\text{capacity}} + C_{\text{energy}} + C_{\text{measuring}}) / E$$

$P_{\text{average}}$  – the average transmission fee

$E$  – The transmitted power

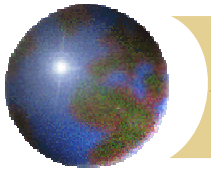
For the second year the average transmission fee for the basic year will multiply with the annual adjustment factor :

$$A = (1 + RPI - X)$$

$A$  - the annual adjustment factor

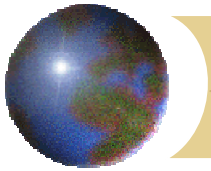
$RPI$  - the inflation rate for consumption prices envisaged for the second year by the National Bank of Albania or set by ERE based on the trend of the index of consumer's price during the last three years for which historic records are available.

$X$  - factor for improving the efficiency defined by ERE



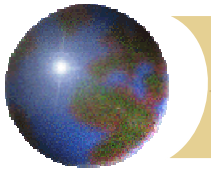
## *Methodology of transmission fees (cont.)*

- For the third year of the tariff review cycle, the average transmission fee for the second year will multiply the annual adjustment factor using the RPI value in reference to the third year.
- For the fourth year of tariff review cycle, the average transmission fee for the second year is multiplied with the annual adjustment factor using the RPI value in reference to the fourth year.
- Value of X should be determined based on the study of the standards of transmission system operators that reviews the activity of regional OST for at least a three year period. If ERE will not have time to carry out such a study on standards or to assess the results of other studies on standards, then the value of X should be zero.



## *The methodology of Distribution Fees*

- ⊕ Price ceiling for three years
- ⊕  $RPI - X$ , without adjustment for the uncontrollable costs
- ⊕ The principles are the same for the transmission and distribution. Both are networks (natural monopolies)
- ⊕ The distribution will need to reduce both the non technical and technical losses

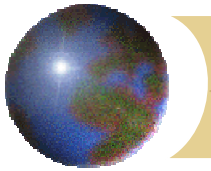


# *Methodology of sales tariffs to the tariff customers*

The division of customers into four categories :

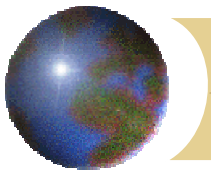
- ✿ The tariff customers with Low Tension. For every household, the monthly sales are divided into two blocks: the first and second block.
- ✿ The tariff non household customers with High Tension, such as customers with a direct connection to the 110/x kW transformers
- ✿ Tariff non household customers with Middle Tension
- ✿ Tariff household customer with Low Tension





## *Methodology of sales tariffs to the tariff customers (cont.)*

- ✚ If possible, the inter subsidies among these four groups of customers should be eliminated, estimating for each group fees that truly reflect the real economic cost of the power service.
- ✚ Within each of the three non-household customers, ERE may set up three sub groups of customers and set different fees for each subgroup.
- ✚ The fee for the first block should be set by ERE to achieve the social targets, such as the protection of low income household customers from high power prices.
- ✚ The non technical losses are a responsibility of the distribution/supply company. The qualified customers should not experience non technical losses and should not pay for the non technical losses.



## *Methodology of sales tariffs to the tariff customers (cont)*

- Average cost per kWh electric power in the first block of household consumption consists of the following components:

$$\mathbf{AC\ block\ I = G + T + D + S - CS1}$$

where:

**AC block I** – average cost of electric power sold to the household clients, in the first block, measured in lek/kWh

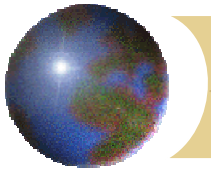
**G** – the generating cost, estimated from the KPGJ tariff

**T** – the transmission cost, calculated from the transmission fee

**D** – the distribution cost, calculated from the distribution fee

**S** – payment for public supply

**CS1** – inter subsidies for the first block of household customers



## *Methodology of sales tariffs to the tariff customers (cont)*

-The average cost per kWh electric power in the second block of household consumption consists of the following components :

$$\text{AC block II} = \text{G} + \text{I} + \text{T} + \text{D} + \text{S} + \text{A} + \text{CS2}$$

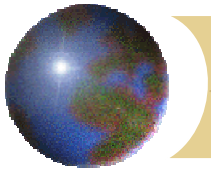
**AC block II (Average Cost)** – the average cost of the power sold to the household customers, in the second block, measures in lek/kWh

**G** – the generating cost , estimated from the KPGJ tariff

**I** – the quantity that should be added to G to cover the import costs, the purchases by IPP and purchases by SPP

**T** – the transmission cost, estimated from the transmission fee

**D** – the distribution cost, calculated from the distribution fee

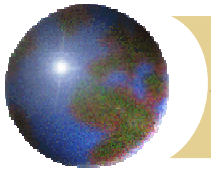


## *Methodology of sales tariffs to the tariff customers (cont)*

**S** – payment for public supply

**A** – the adjustment of bad loans, non technical losses and expenses related to the inspection of meters, bill collection, public information programs, judicial issues related to them and other activities needed to reduce the bad loans and non technical losses.

**CS2** – inter subsidies paid by the second block of household consumption for the first block



## *Methodology of sales tariffs to the tariff customers (cont)*

### **- The sales fee for non household customers**

For every tension level, the average cost for kWh power sold to the non household customers consists of the following components :

$$\mathbf{AC = G + I + T + D + S}$$

where:

**AC** – the average cost of power sold to the non household customers measured in lek/kWh

**G** – the generating cost, calculated from the KPGJ fee

**I** – the quantity that should be added to G to cover the import costs, purchases from IPP and SPP

**T** – the transmission cost, calculated from the transmission fee

**D** – the distribution cost, calculated from the distribution fee

**S** – payment for public supply