



KOSOVO ENERGY CORPORATION J.S.C.

Proposal for charges of the Public Generator

04 December 2015

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1. Introduction

On 13 November 2015, Kosovo Energy Corporation received a letter from ERO regarding the annual update on maximum allowed revenue and electricity tariffs.

According to this letter, KEK has prepared a proposal on maximum allowed revenues for the fourth relevant year within ETR7 in accordance with the Pricing Rules for Generation. Together with the proposal on maximum allowed revenue, KEK has also prepared the Public Generator Charges for 2016 which will be submitted to ERO within the deadline, on 4 December 2015.

Charges of the Regulated Generator presented in this document are calculated in accordance with the pricing Methodology for the public generator approved by ERO in 2014.

Besides the other costs, the proposal on the charges of the public generator has taken into account the planned maintenances during next year as well as the lowest level of production according to the draft Annual Electricity Balance for 2016, expected to be approved soon by the MED.

Updates prepared according to the new requests are expected to become applicable as of 01 April 2016.

KEK hopes that ERO will carefully treat all the elements of the proposed costs by the Regulated Generator having in mind the fact that there were financial limitations in 2015 and this endangers the proper operation of the generation units.

2. Electricity Balance

Electricity balance is being prepared by the Transmission, System and Market Operator (KOSTT). For the purposes of preparing the Annual Electricity Balance, KOSTT has obtained all the necessary data and information from all the relevant stakeholders involved in the electricity market, including Kosovo Energy Corporation.

In accordance with the deadlines presented on the request for data from KOSTT, KEK responded to the request of KOSTT for providing all the necessary data to complete the annual electricity balance for 2016.

The data and information that KEK sent to KOSTT for the completion of the Annual Electricity Balance, which are expected to be approved by the Ministry of Economic Development are presented in table 1.

Table 1. Net Electricity Balance (MWh)

Njësitë Gjeneruese	Viti 2016			
	Njësia	TC Kosova A	TC Kosova B	Total
Prodhimi në Gjenerator	MWh	2,123,014	4,079,122	6,202,137
Harxhimi Vetanak	MWh	139,575	354,962	494,537
Ko-Gjenerimi			38,701	38,701
Marrja nga Transmisioni	MWh	115,279	36,652	151,930
Neto Totali:	MWh	1,868,160	3,648,808	5,516,968
Konsumi i DPQ-së	MWh	121,000		
Energjia NETO	MWh	5,395,968		

Certainly, the data presented above were extracted from version 0.2 of the Draft Annual Electricity Balance for 2016, therefore, we have obtained all the necessary information that this balance as far as the production of the generation units of KEK are concerned will not have any additional changes in the final version which is to be approved by MED.

2.1. Electricity

All the electricity produced by KEK is not available for sale since a part of this produced electricity is spent for the own needs of power plants as well as another part of it is used for the needs of the Coal Production Division. Having this in mind, for the purpose of determining the charges, besides the deduction of the electricity used by the Power Plants (self-spending), we have also deducted the electricity that is spent by Coal Production Division in KEK. We have deducted reduced this electricity since the costs of the consumption of this electricity is not presented in the MAR for Mines, if this electricity would be treated as a sale by the Generator, than the cost of the use of such electricity should have been included in MAR for Mines. The electricity amount foreseen to be consumed by the Coal Production Division in the Annual Electricity Balance for 2016 is 121GWh. This amount was deducted from the total of electricity produced in the threshold from PP Kosova A and PP Kosova B same as presented in Table 1. While, the foreseen capacity and electricity for co-generation of around 38.7 GWh was deducted from PP Kosova B as presented in Table 1.

2.2. Available target – Available capacity

Available capacity is the maximum amount of electricity that generation units can produce in the specific conditions. The capacity of the generation units is determined by the manufacturer of the generation units and presents their capability to produce electricity by not exceeding the thermal limitations designed by the manufacturer. Depending on the available time of the generation units, the amount of electricity is produced (MWh).

Net capacity during the Summer season and during the Winter season is different and usually determined by the performance test that indicates the maximum charge of the generators that can be supported by the point of interconnection during the respective season. Temperature of the cooling water or air in the environment are the main factors that influence the capacity in the middle of the Summer and Winter season.

In calculating the availability, some relevant factors were taken into account, such as: working hours of the generation units, planned hours of stops as well as the expected capacity in the threshold.

2.2.1. Power Plant Kosova A

In determining the availability for the generation units of the Power Plant Kosova A, the expected capacity is 120MW on hour, taking into account that these generation units vary from 120MW until 140MW on hour.

Based on the calculation in the Table 2, the Available target for the Power Plant Kosova A is expected to be around 1,868,160MWh.

2.2.2. Power Plant Kosova B

In determining the availability for the generation units of the Power Plant Kosova B, the expected capacity is 265MW, excluding few summer months (June-September) where the capacity is set to 260MW taking into account the relevant influencing factors such as weather conditions and high temperatures during that time.

Based on the calculation in the Table 2, the Available target for the power Plant Kosova B is expected to be around 3,687,509MW.

The table below also presents the capacity that will be reduced because of what is being spent by the Coal Production Division and the reserved capacity for co-generation, that in total represent a reduction of the available capacity of 159,701MW

With the reference on Table 2, the overall Capacity available for Power Plant Kosova A and Kosova B is expected to be around 5,395,968 MWh.

Table 2 shows all the information needed for determining the available target for 2016. This table contains information for all the generation units of KEK Generation.

Table 2. Availability

Blok	VITI 2016	Janar	Shkurt	Mars	Prill	Maj	Qershor	Korrik	Gusht	Shtator	Tetor	Nëntor	Dhjetor	Total
		31 ditë	29 ditë	31 ditë	30 ditë	31 ditë	30 ditë	31 ditë	31 ditë	31 ditë	30 ditë	31 ditë	30 ditë	31 ditë
A3	Orë Pune brenda muajit	744	696	744	720	744	720	744	744	720	744	720	744	8784
	Numri i ndaljeve të planifikuara	-	1		1			1	1		1	1	1	7
	Orët e ndaljeve të planifikuara	0 h	72 h	216 h	504 h	360 h	0 h	168 h	480 h	0 h	312 h	456 h	384 h	2952 h
	Numri i ndaljeve të pa planifikuara	1	1	1	1	1	1	1	1	1	1	1	1	12
	Orët e ndaljeve të pa planifikuar	72 h	96 h	48 h	48 h	48 h	48 h	72 h	48 h	72 h	48 h	72 h	48 h	720 h
	Kapaciteti (MW)	120	120	120	120	120	120	120	120	120	120	120	120	
	Orët në Dispozicion	✓ 672	✓ 528	⚠ 480	✗ 168	⚠ 336	✓ 672	⚠ 504	✗ 216	✓ 648	⚠ 384	✗ 192	✗ 312	5112
	Totali i kapacitetit në dispozicion	80640	63360	57600	20160	40320	80640	60480	25920	77760	46080	23040	37440	613440
A4	Orë Pune brenda muajit	744	696	744	720	744	720	744	744	720	744	720	744	8784
	Numri i ndaljeve të planifikuara		1		1		1		1	1	1	1	1	7
	Orët e ndaljeve të planifikuara	744 h	0 h	312 h	0 h	384 h	480 h	0 h	264 h	288 h	144 h	264 h	48 h	2928 h
	Numri i ndaljeve të pa planifikuara		1	1	1	1	1	1	1	1	1	1	1	11
	Orët e ndaljeve të pa planifikuar	0 h	96 h	48 h	72 h	48 h	48 h	72 h	48 h	48 h	48 h	72 h	48 h	650 h
	Kapaciteti (MW)	120	120	120	120	120	120	120	120	120	120	120	120	
	Orët në Dispozicion	✗ 0	✓ 598	⚠ 384	✓ 648	⚠ 312	✗ 192	✓ 672	⚠ 432	⚠ 384	✓ 552	⚠ 384	✓ 648	5206
	Totali i kapacitetit në dispozicion	0	71760	46080	77760	37440	23040	80640	51840	46080	66240	46080	77760	624720
A5	Orë Pune brenda muajit	744	696	744	720	744	720	744	744	720	744	720	744	8784
	Numri i ndaljeve të planifikuara			1	1			1			1	1		6
	Orët e ndaljeve të planifikuara	0 h	600 h	216 h	216 h	0 h	240 h	576 h	0 h	432 h	288 h	0 h	312 h	2880 h
	Numri i ndaljeve të pa planifikuara	1	1	1	1	1	1	1	1	1	1	1	1	12
	Orët e ndaljeve të pa planifikuar	78 h	24 h	48 h	48 h	72 h	48 h	48 h	72 h	48 h	48 h	72 h	48 h	654 h
	Kapaciteti (MW)	120	120	120	120	120	120	120	120	120	120	120	120	
	Orët në Dispozicion	✓ 666	✗ 72	✓ 480	⚠ 456	✓ 672	⚠ 432	✗ 120	✓ 672	✗ 240	⚠ 408	✓ 648	⚠ 384	5250
	Totali i kapacitetit në dispozicion	79920	8640	57600	54720	80640	51840	14400	80640	28800	48960	77760	46080	630000
Total TCA	Orë Pune brenda muajit	2232	2088	2232	2160	2232	2160	2232	2232	2160	2232	2160	2232	26352
	Numri i ndaljeve të planifikuara	1	2	2	1	1	1	1	2	2	3	2	2	20
	Orët e ndaljeve të planifikuara	744 h	672 h	744 h	720 h	744 h	720 h	744 h	744 h	720 h	744 h	720 h	744 h	8760 h
	Numri i ndaljeve të pa planifikuara	2	3	3	3	3	3	3	3	3	3	3	3	35
	Orët e ndaljeve të pa planifikuar	150 h	218 h	144 h	168 h	168 h	144 h	192 h	168 h	168 h	144 h	216 h	144 h	2024 h
	Kapaciteti (MW)	360	360	360	360	360	360	360	360	360	360	360	360	
	Orët në Dispozicion	1,338	1,198	1,344	1,272	1,320	1,296	1,296	1,320	1,272	1,344	1,224	1,344	
	Totali i kapacitetit në dispozicion	160,560	143,760	161,280	152,640	158,400	155,520	155,520	158,400	152,640	161,280	146,880	161,280	1,868,160

Bloku	VITI 2016	Janar	Shkurt	Mars	Prill	Maj	Qershor	Korrik	Gusht	Shtator	Tetor	Nëntor	Dhjetor	Total
		31 ditë	29 ditë	31 ditë	30 ditë	31 ditë	30 ditë	31 ditë	31 ditë	31 ditë	30 ditë	31 ditë	30 ditë	31 ditë
B1	Orë Pune brenda muajit	744	696	744	720	744	720	744	744	720	744	720	744	8784
	Numri i ndaljeve të planifikuara				1				1			1		3
	Orët e ndaljeve të planifikuara	0 h	0 h	0 h	216 h	0 h	0 h	0 h	648 h	312 h	0 h	216 h	0 h	1392 h
	Numri i ndaljeve të pa planifikuara	1	1	1	1	1	1	1	1	1	1	1	1	11
	Orët e ndaljeve të pa planifikuar	36 h	60 h	36 h	24 h	36 h	36 h	36 h	0 h	16 h	36 h	24 h	36 h	376 h
	Kapaciteti (MW)	260	260	260	260	260	260	260	260	260	260	260	260	260
	Orët në Dispozicion	✓ 708	✓ 636	✓ 708	⚠ 480	✓ 708	✓ 684	✓ 708	✗ 96	⚠ 392	✓ 708	⚠ 480	✓ 708	7016
Totali i kapacitetit në dispozicion	184080	165360	184080	124800	184080	177840	184080	24933	101920	184080	124800	184080	1824133	
B2	Orë Pune brenda muajit	744	696	744	720	744	720	744	744	720	744	720	744	8784
	Numri i ndaljeve të planifikuara	-	-	-	1		-	1		1	-	1	-	4
	Orët e ndaljeve të planifikuara	0 h	0 h	0 h	216 h	0 h	0 h	672 h	264 h	0 h	0 h	216 h	0 h	1368 h
	Numri i ndaljeve të pa planifikuara	1	1	1	1	1	1	1	1	1	1	1	1	11
	Orët e ndaljeve të pa planifikuar	36 h	60 h	36 h	24 h	36 h	36 h	0 h	24 h	36 h	36 h	24 h	36 h	384 h
	Kapaciteti (MW)	265	265	265	265	265	265	265	265	265	265	265	265	265
	Orët në Dispozicion	✓ 708	✓ 636	✓ 708	⚠ 480	✓ 708	✓ 684	✗ 72	⚠ 456	✓ 684	✓ 708	⚠ 480	✓ 708	7032
Totali i kapacitetit në dispozicion	187620	168540	187620	127200	187620	181260	19080	120736.038	181260	187620	127200	187620	1863376.038	
Total TC B	Orë Pune brenda muajit	1488	1392	1488	1440	1488	1440	1488	1488	1440	1488	1440	1488	17568
	Numri i ndaljeve të planifikuara	0	0	0	2	0	0	1	1	1	0	2	0	7
	Orët e ndaljeve të planifikuara	0 h	0 h	0 h	432 h	0 h	0 h	672 h	912 h	312 h	0 h	432 h	0 h	2760 h
	Numri i ndaljeve të pa planifikuara	2	2	2	2	2	2	2	1	1	2	2	2	22
	Orët e ndaljeve të pa planifikuar	72 h	120 h	72 h	48 h	72 h	72 h	36 h	24 h	52 h	72 h	48 h	72 h	760 h
	Kapaciteti (MW)	525	525	525	525	525	525	525	525	525	525	525	525	525
	Orët në Dispozicion	1,416	1,272	1,416	960	1,416	1,368	780	552	1,076	1,416	960	1,416	121,000
Totali i kapacitetit në dispozicion	371,700	333,900	371,700	252,000	371,700	359,100	203,160	145,669	283,180	371,700	252,000	371,700	3,687,509	
Neto Kapaciteti i disponueshëm për TC Kosova B		371,700	333,900	371,700	252,000	371,700	359,100	203,160	145,669	283,180	371,700	252,000	371,700	3,687,509
Total TC Kosova A dhe TC Kosova B		532,260	477,660	532,980	404,640	530,100	514,620	358,680	304,069	435,820	532,980	398,880	532,980	5,555,669
Ko-Gjenerimi		7,862	6,146	5,750	1,656	-	-	-	-	-	2,196	6,585	8,506	38,701
Kapacitetit për shfrytëzim të DPQ-së		11,000	11,000	10,000	10,000	9,000	9,000	9,000	10,000	10,000	10,000	11,000	11,000	121,000
Caku i Disponibilitetit		513,398	460,514	517,230	392,984	521,100	505,620	349,680	294,069	425,820	520,784	381,295	513,474	5,395,968

Available target presented in the table above is determined in accordance with the Article 16 Paragraph 3 of the Pricing Rules for Generation as well as the Methodology for the determination of charges of the public generator.

3. Maximum allowed revenues

In accordance with the Pricing Rules for Generation, KEK has prepared the proposal for the maximum allowed revenues for the fourth relevant year, respectively for 2016, which will be sent to ERO on 4 December 2015 for review and approval.

Taking into consideration that the calendar year is not over yet, we had to take into account some approximates with regards to the executed costs for 2015, therefore, based on the initial calculations, the proposal for maximum allowed revenues for 2016 reaches the amount of €169.4 million for the Public Generator, including Mines.

3.1. Allowed revenues for Mines

Allowed revenues for Mines are presented as the costs of supply with coal for the Public Generator. Therefore, KEKs proposal for the allowed revenues or the cost of supply with coal for the fourth relevant year are proposed in the value of €87.1 million which will be covered partially by the charges on energy and partially covered by the charged on capacity.

The costs on supply with coal are presented in details in the Table 3.

Table 3. Allowed Costs for Supply with Coal

Kostot e Mihjes	2016 € ('000)
Kostot e Personelit	23,814
Operimi dhe Mirëmbajtja	10,043
Zhvlerësimi	15,893
Kthimi	9,347
Renta e Thëngjillit	19,617
Derivatet - Lënd Djegëse	3,031
Sigurimi Shëndetësor 2016	970
Sigurimi Fizik	1,027
Transporti	100
Gas dhe Ujë	210
Axhustime Tjera	3,065
Total Mihjet	87,117

3.2. Allowed revenues for Generation units

In the proposal for the maximum allowed revenues for the second relevant year of ETR7, the costs of PP Kosova A and PP Kosova B are presented as a total of the Generation costs. The costs of the Generation units, excluding the costs of supply with coal, are €82.28 million which are expected to be covered by the charges for energy and charges for capacity.

The costs of the generation units are presented in details in the Table 4.

Table 4. Costs of the Generation units

Kostot e Gjenerimit	2016
	€ ('000)
Kostot e Personelit	11,901
Operimi dhe Mirëmbajtja	6,986
Zhvlerësimi	24,196
Kthimi	9,669
Kostot e Bartshme (KOSTT dhe Licencat)	7,407
Derivatet - Lënd Djegëse	6,181
Sigurimi Shëndetësor 2016	465
Sigurimi Fizik	735
Transporti	150
Gas dhe Ujë	351
Axhustime Tjera ...	14,240
Tjera	
Total Gjenerimi A & B	82,282

4. Cost Allocation

Allocation of the costs of Generation into fix costs and variable costs is done in accordance with the Principles for the determination of charges for Generator as well as Pricing Rules for Generation. The same principles were also used for the allocation of costs of Mines by referring to the Article 14 Paragraph 5.2 of the Generation Pricing Rule.

Fix costs are based on costs that occurred in generation and mines, and those costs do not change based on the capacity of the produced electricity.

Variable costs are based on the costs that do not occur in the case in the supply unit would be zero. KEK has followed this principle in the classification of costs. Therefore, other operational and maintenance costs are allocated as 25% fix and 75% variable.

$$\text{Allowed revenues} = \text{Fix Costs} + \text{Variable Costs}$$

4.1. Fix Costs

The component of Fix Costs for the Regulated Generator include all the costs that are not dependent on the production level of the electricity plant. All the fix costs of the Regulated Generator will be covered through the charges for Capacity. Costs are allocated in accordance with the Methodology for Determining the Charges of Public Generator.

Fix costs in this proposal are calculated according to the following formula:

$$FCG = PNC + INC + HQC + RTN + DEP + TPC + FMC$$

Where

<i>FCG</i>	<i>presents the component of fixed costs of generator</i>
<i>PNC</i>	<i>presents the costs of the contracted staff that does not change based on the level of production of electricity</i>
<i>INC</i>	<i>presents the costs of health insurance</i>
<i>HQC</i>	<i>presents the Costs of the Central Administration</i>
<i>RTN</i>	<i>presents the allowed return on capital</i>
<i>DEP</i>	<i>presents the allowed depreciation</i>
<i>TPC</i>	<i>present the costs of transportation that do not depend on the level of production</i>

4.2. Variable Costs

Variable costs are the Costs whose level changes with the changes in the level of production and includes the variable component of operational and maintenance expenses. Costs are allocated in accordance with the Methodology for Determining the Charges of Public Generator.

Variable costs in this proposal are calculated according to the following formula:

$$VCG=CUT+CRM+CMS+CLU+OCT+VCM+FUC+PTC+LFC$$

Where

<i>VCG</i>	<i>presents the variable component of the generator costs</i>
<i>CUT</i>	<i>presents the costs of municipal utilities and other costs used during production of electricity (water, electricity etc.)</i>
<i>CRM</i>	<i>presents the costs for the repairs of damaged equipment and maintenance of equipment used for the production of electricity</i>
<i>CMS</i>	<i>presents the costs of materials and supplies</i>
<i>CLU</i>	<i>presents the costs of lubrication of energy stabilizers</i>
<i>OCT</i>	<i>presents the other costs that vary together with the production level of electricity</i>
<i>VCM</i>	<i>presents the variable component of allowed costs for mines that will be calculated as costs that will not occur if the production of coal would be zero, defined according to Article 6.4.2 of this Methodology</i>
<i>PTC</i>	<i>presents the carry forward costs</i>

Table 5 presents the Allocation of costs in details for each line for Mines and Generation. This table shows that 71% of costs are allocated to fixed costs while 29% of the costs are allocated to the variable costs.

Table 5. Costs allocation

2016 Linja	25%		75%		Total € ('000)
	Minierat € ('000)	Gjenerim € ('000)	Minierat € ('000)	Gjenerim € ('000)	
Kostot e Personelit	23,814	11,901	-	-	35,715
Operimi dhe Mirëmbajtja	2,511	1,746	7,533	5,239	17,029
Zhvlerësimi	15,893	24,196	-	-	40,089
Kthimi	9,347	9,669	-	-	19,017
Renta e Thëngjillit	-	-	19,617	-	19,617
Kostot e Bartshme (KOSTT dhe Licencat)	-	-	-	7,407	7,407
Derivatet - Lënd Djegëse	-	-	3,031	6,181	9,211
Sigurimi Shëndetësor 2014	970	465	-	-	1,435
Sigurimi Fizik	1,027	735	-	-	1,762
Transporti	100	150	-	-	250
Gas dhe Ujë	-	-	210	351	561
Axhustime Tjera	3,065	14,240	-	-	17,305
Total KEK Mihje + Gjenerimi A & B	119,830		49,569		169,399

Alokimi i kostove në %	Kostot Fikse	Kostot Variabile	-
	71.0%	29.0%	100.0%

5. Charges design

After the evaluation of fixed and variable costs, the charge level of the regulated generator can be determined, which will be applicable towards the Public Electricity Supplier with the effective date starting from 1 April 2015. The charges which will be applied towards the PES are:

- Charges on Electricity and
- Charges on Capacity.

The proposed charges by the Regulated Generator are designed in that way to ensure that by applying them, the maximum allowed revenues will be achieved.

5.1. Charges for Electricity

Charges for Electricity are designed in accordance with the Generation Pricing Rule of where through this, the aim is to cover all the variable costs of production of electricity.

Calculation of the charges for Electricity is done according to the following formula:

$$\text{Electricity Costs} = \frac{\text{Variable Costs}}{\text{Produced Electricity GWh}} = \frac{49,569}{5,395.97} = \mathbf{9.19} \text{ €/MWh}$$

5.2. Charges for Capacity

Charges for capacity are presented in euro for the unit of available capacity in hour. This charge will be paid on monthly basis for each hour of available capacity for that month. Through this we aim to cover all the fixed costs for the offered available capacity from generation units by fulfilling the available target.

Charges for capacity are designed in accordance with the Article 16 Paragraph 2 of the Generation Pricing Rules.

Calculations of charges for capacity are done according to the following formula:

$$\text{Charge for Capacity} = \frac{\text{Fix Costs}}{\text{Availability GW/h}} = \frac{119,830}{5,395.97} = \mathbf{22.21} \text{ €/MW/h}$$

6. Tariff Structure

The proposed charges from the Public Generator will initially be reviewed and approved by ERO. After they are approved, the Regulated Generator will apply these charges towards the Public Supplier in accordance with the Agreement for supply with electricity, with an effective date from 01 April 2016.

Tariff Structure of the Regulated Generator is presented in details with all its elements in Table 6.

Table 6. Tariff Structure of the Regulated Generator.

Elementet Tarifore	Njësia	Tarifa
Ngakresa për Energji	€/MWh	9.19
Ngarkesa për Kapacitet	€/MW/h	22.21