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Technical Assistance to the Energy Regulatory Office: Summary of Key Issues, Findings and Recommendations

Report submitted by: Ardian Berisha

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List of acronyms and abbreviations

The acronyms and abbreviations used in this Report have the following meanings:

ARR	means the Actual Regulated Revenues which a Regulated Entity has actually recovered during a Relevant Year
DSO	means the Distribution System Operator
ERO	means the Energy Regulatory Office of the Republic of Kosovo
ETR7	means the seventh electricity tariff review conducted by ERO
HICP	means the Harmonized Index of Consumer Prices, used by ERO as an inflation proxy
KEDS	means the Kosovo Energy Distribution and Supply company
KOSTT	means the Kosovo Transmission, System and Market Operator
KREV	means the difference between the Maximum Allowed Revenues (MAR) and Actual Regulated Revenues (ARR) of a Regulated Entity within each Relevant Year
LSSCt	means Allowed Cost of Losses which a Regulated Entity is allowed to recover during a Relevant Year
MAR	means Maximum Allowed Revenues which are used to recover the allowed costs of a Regulated Entity within a Relevant Year
MED	means the Ministry of Economic Development of the Republic of Kosovo
PES	means the Public Electricity Supplier
SEM	means a Simple Electronic Meter
SO	means the System Operator
TOU	means Time-of-Use tariffs which are used to differentiate the tariff charged to customers based on the time that the energy is consumed
WHEA	means the average wholesale energy cost
WHEC	means Wholesale Energy Costs
WHPC	means the Wholesale Power Purchase Costs which are used by ERO to calculate PES Purchase costs and allowed cost of losses

1 Introduction

This Report provides a summary of key issues and recommendations related to the technical assistance provided to the Energy Regulatory Office (ERO) during the Eighth Electricity Tariff Review (ETR8). The Technical Assistance was provided through the National Association of Regulatory Utility Commissioners (NARUC). The Consultant supported ERO to implement the electricity sector Pricing Rules in conducting their first Regular Adjustment process of the multi-year tariff review.

The main objective of the engagement was to assist ERO in modeling their Electricity Tariff Review allowances, estimate the appropriate level of Maximum Allowable Revenues (MAR) to be recovered by each of the Regulated Segments of the electricity sector and draft the Consultation Papers and Reports. The consultant also provided ERO his views on ERO's initiative to change the existing tariff structure. A summary of the consultant's recommendations is provided below. A copy of the presentation provided to ERO's Board of Commissioners on 25 April and Draft Consultation Papers and the Tariff Model which were submitted to ERO Tariff Department on the same date are also attached to this Report.

2 Regular Adjustments vs. Periodic Reviews

The Consultant provided ERO with assistance in implementing the Regular Adjustment process which differs from a full-blown Periodic Review as during a Regular Adjustments process ERO only mechanically adjusts differences between actual costs and forecast costs assessed during the previous review.

During a Periodic Review process, which ERO had undergone last year during the Seventh Electricity Tariff Review (ETR7), a detailed analysis of the licensees' capital expenditure program and a review of the reasonableness of their operating expenditures request is conducted. Based on this evaluation of the licensees' applications, ERO sets the Maximum Allowed Revenues for the length of the Regulatory Period. The Regulatory Period has been set for five years for the Regulated Generator (KEK), Transmission, System and Market Operator (KOSTT) and Distribution System Operator (DSO). The MAR of the Public Electricity Supplier is set for one year only to match the volatility of costs faced by the Public Supplier.

During a Regular Adjustments process (the technical term for the PES is the Annual Update process ERO mechanically adjusts the MARs of the licensees to match any differences between the level of costs forecasted during Periodic Reviews (or the previous Regular Adjustment) and the actual level of costs incurred by the licensees within each Relevant Year. The principle applied by the Rules is that the licensees should be compensated for any differences in costs which are outside of their control. Specifically, the Consultant assisted ERO in implementing the following adjustments:

1. Index the Allowed Operating and Maintenance Costs of all licensees for the Efficiency Factor which is set during the Periodic Review process and for Annual Inflation which is set using the Harmonized Index of Consumer Prices (HICP) for All Items in the Eurozone;

2. Calculate the Wholesale Power Purchase Costs which include the cost of purchasing power from the Regulated Generators[1], Imports and the Retail Margin. These are updated to reflect the difference between allowed and actual power purchase costs in the previous Regulatory Period;
3. Set the Allowed Cost of Losses (LSSCt) for the Transmission System and Market Operator (KOSTT) and update these to include the difference between allowed and actual cost of losses for the previous Regulatory Period, which may have arisen due to changes in wholesale power costs or changes in the flows of electricity in the transmission system;
4. Update TSO MAR to reflect the difference between Allowed and Actual Regulated Revenues in the previous Relevant Year (t-1);
5. Set the Transmission Use of System, Market Operator and System Operator Charges;
6. Set the Allowed Cost of Losses (LSSCt) for the Distribution System Operator (DSO) and update these to include the difference between allowed and actual cost of losses for the previous Regulatory Period, which may have arisen due to changes in wholesale power costs or changes in the flows of electricity in the Distribution system.
7. Update DSO MAR to reflect the difference between Allowed and Actual Regulated Revenues in the previous Relevant Year (t-1);
8. Calculate the Allowed Retail Costs of the Public Electricity Supplier, which include the costs of operating and maintaining the PES activity, corporate costs, depreciation allowances and other reasonable costs of the PES;
9. Set the new PES MAR by including the difference between allowed and actual billing in the previous Regulatory Period;

The results and recommendations from these calculations were summarized in the draft Consultation Papers which are added to the Annex of this Report.

3 Key issues

This section of the Report presents a summary of the Key Issues which impacted the Regular Adjustments and Annual Updates process.

3.1 Energy Balance

The Energy Balance is the starting point of any tariff-setting process and it has the greatest impact on the cost of providing Regulated Service. A bottom-up approach was followed to construct the Energy Balance for the MAR assessment. The Energy Balance approved by the Ministry of Economic Development (MED) for 2014 provided the required data on expected generation output, expected distribution and transmission-level sales and exports. The Energy Balance was constructed by starting from the expected level of sales as the initial input value. The percentage of allowed losses was then used in order to calculate the level of energy required to enter the distribution system, net of distribution-embedded generation. Transmission level demand, losses and exports were added to

[1] The MAR of the Regulated Generator was taken as an Input from ERO's own assessment of Regulated Generator MAR.

the distribution consumption. The difference between the resulting value and domestic generation (KEK Generation and Ujmani) is the import volume required to balance production and demand.

3.1.1 Allowed Distribution Losses

One of the main requests of the Distribution System Operator was the issue of resetting the loss target which the Board of ERO issued as part of the Regulatory Parameters Decision. The Decision set the level of Distribution Losses (for the next 1+5 Relevant Years of the forthcoming Regulatory Period) which the DSO would be allowed to recover from Regulated Tariffs. The Decision stated that the allowed level of losses would start from the actual losses in 2011 and be reduced by 3 percentage points in each of the first three years followed by 2.5 percentage points in the subsequent final three years.

KEDS argue that the level of distribution losses which should be recovered in ETR8 tariffs should be reset to start from the actual level of losses achieved by KEK in the first transitional year less three percentage points. KEDS make their argument on the grounds that KEK did not achieve the full three percentage point reduction, as they were supposed to, and therefore KEDS will have to reduce losses by the three percentage points, as per the decision of ERO, plus the difference between ERO's target (3% points) and what KEK actually achieved in the previous year (1.1% points). KEDS would therefore have to reduce the loss target by 4.9% points (3.0% of their own plus 1.9% which was not achieved by KEK) for the first year of control rather than 3% as required by ERO.

This is one of the key decisions of the Board of ERO which will have the greatest impact on the MAR of the sector. The value of the targets has a direct impact on the level of tariffs and ERO is therefore required to consult all stakeholders prior to taking a position on the matter[2]. Resetting the loss target may lead to significant increased costs of electricity supplied to customers as any additional energy that would have to enter the distribution system would be charged at the import price. The Decision was one of the main requests of the Transaction Advisors to the Government of Kosovo for the KEDS Privatization Transaction and it was meant to provide predictability of the level of tariffs and a basis upon which financial bids would be offered. The bidders may have therefore assumed the risk of the incumbent utility not being able to reach the target and may have factored this into the bidding price. Changing the Decision may be interpreted as changing the terms upon which a competitive bidding process was carried out and may lead to complaints of the losing party thereby risking the transaction process.

On the other hand, one may consider it fair to take KEDS' request into consideration as they have to achieve a higher loss target than they may have originally envisaged.

In the absence of a new Decision by ERO, the Reports were drafted on the basis of existing Decisions. It was highlighted that the draft presented the current situation and does not present an opinion of the Consultant that the losses Decision should or should not be changed[3]. ERO was advised to

[2] Article 26 paragraph 1 of the Law on Energy Regulator requires that ERO undergoes a public consultation for issues with a significant impact on the electricity market including all issues related to tariffs.

[3] ERO were provided with a "tick" option in the "Energy Balance" sheet of the Model which automatically calculates the new MAR should ERO decide to reset the target.

consult the Post Privatization Unit of KEDS for an opinion on whether changing the Decision is in compliance with competitive tendering procedures. The final Energy Balance is summarized in Table 1 below.

Table 1 Energy Balance Summary

Energy Balance		ETR7 Allowed	ETR7 Clarification Letter	ETR7 Actual	ETR8 Allowed
KEK Generation		5,592.0	5,592.0	5,877.5	5,354.4
Kosovo A	GWh	1,848.0	1,848.0	2,014.0	1,758.4
Kosovo B	GWh	3,744.0	3,744.0	3,863.4	3,595.9
Other Transmission Connected Generation					
HPP Ujmani	GWh	80.0	80.0	99.4	82.0
Transmission-connected Demand		621.9	621.9	487.1	617.1
Ferronikeli consumption	GWh	527.0	527.0	403.2	526.7
Trepca	GWh	94.9	94.9	84.0	27.1
Sharrcem	GWh				63.3
Other Transmission - level consumption		295.0	295.0	287.1	283.1
Mine consumption	GWh	140.0	140.0	128.5	138.0
Kosovo A supply from Transmission	GWh	72.0	72.0	107.2	53.2
Kosovo B supply from Transmisison	GWh	83.0	83.0	51.4	91.9
Transmission Losses	%	1.8%	1.8%	1.7%	1.8%
	GWh	111.2	112.6	110.3	106.9
Energy Entering Transmission System		6,177.0	6,254.5	6,491.9	5,940.1
Exports	GWh	492.0	492.0	857.0	484.0
Total Production	GWh	5,672.0	5,672.0	5,976.9	5,436.4
Imports	GWh	505.0	582.5	521.4	503.8
Energy Required to meet Transmission Load	GWh	1,520.1	1,521.5	1,741.6	1,491.1
Energy Required to meet Distribution Load	GWh	4,656.9	4,733.1	4,750.3	4,449.1
Distribution Generation					
Distribution-embedded generation	GWh	35.0	49.0	43.9	46.3
Wind Power j.s.c.	GWh				
Distribution Consumption	GWh	4,691.9	4,782.1	4,794.2	4,495.4
Distribution losses and unbilled energy					
Technical and commercial losses	%	27.4%	28.6%	32.5%	25.6%
	GWh	1,227.5	1,308.5	1,485.9	1,098.2
Unbilled supplies	%	4.52%	4.43%	4.55%	4.69%
	GWh	212.0	212.0	218.2	211.0

Total losses	GWh	1,439.5	1,520.5	1,704.1	1,309.2
Sales to final customers	GWh	3,252.4	3,261.6	3,090.1	3,186.2

3.2 Circularities generated by the Pricing Rules

The Pricing Rules currently enforced by ERO, and specifically the Public Electricity Supplier Pricing Rule, Generate a number of circularities which need to be addressed in order for the Rules to be modeled and implemented.

One of these circularities arises due to the deduction of losses revenues from the WHPC. Paragraph 5 of Article 13 of the PES Pricing Rule states that revenues of the PES from sales of losses to the TSO and the DSO should be deducted from the wholesale energy costs. However these revenues are the product of the volume of allowed losses (in GWh) and the weighted average power purchase costs (WHEA – expressed in €/MWh). The latter depends on the wholesale power costs which is dependent on the PES revenues from losses. This presents a circularity issue as the losses revenues depend on the WHPC and vice-versa.

Another circularity arises due to the fact that Regulated Generator revenues (part of the WHEC component of WHPC) include the costs of System Operator (SO) charges which are paid by the Regulated Generator. SO charges depend on transmission losses and these depend on the Weighted Average Power Purchase Costs (WHEA) which depends on Power Purchase Costs which depend on Regulated Generator Revenues, including SO Charges. This presents a further circularity.

In a Clarification Letter issued in April 2013 ERO clarified – among others - that it has recalculated the WHPC component of MAR by not deducting revenues earned from sales of losses to the DSO and the TSO and by excluding SO Charges from the Regulated Generator MAR in order to avoid the circularity. The same principle has been applied by the consultant solely on the basis that it was applied by ERO during the previous year. An alternative approach is to calculate two different WHPCs to go around the problem although the Pricing Rule strictly defines that only one WHPC should be used in calculating PES MAR and cost of losses.

ERO was advised to resolve the matter by amending the WHPC part of the PES Pricing Rule.

3.3 ERO Clarification Letter

In April 2013 ERO issued a Clarification Letter notifying the licensees that it will compensate PES for an additional €4.5 million in the next review. In this Clarification Letter ERO acknowledged that had undervalued PES' Wholesale Power Costs during the previous assessment due to the fact that it had allowed a lower level of losses than it would have allowed had ERO correctly applied the Decision on loss targets. The Clarification Letter compensated PES for the increase in Wholesale Energy Costs (€3.6 million), the Resulting increase in Retail Margin (€0.6 million) and an additional automatic increase in Working Capital Costs and Bad Debts.

The MAR calculation provided to ERO compensated the PES for each of these allowances. The WHPC calculation took into account the difference between ETR7 allowed level of WHEC (€164.8 million) and the actual WHEC incurred by PES (€151.3 million). This difference resulted to be €13.5 million which was deducted from KEDS (because actual costs were lower than forecasted costs). This difference would have been €17.1 million had the calculation been made as the difference between actual and ETR7 Clarification Letter amount (€168.4). The difference between of €3.6 million (€17.1-

€13.5) compensates PES for what it should have been allowed last year. The same principle has been applied for the calculation of the Retail Margin. The Working Capital allowance and the Bad Debt compensation have been accounted for separately in the PES sheet of the model.

In order to reflect this principle, the PES KREV has also been calculated with reference to the ETR7 Allowed figure for consistency.

3.4 KREV double-counting

Concerns of a possible double-counting in applying the KREV adjustment were also investigated and it has been concluded that the KREV formula, as given in the PES Pricing Rule, is double counting any differences between allowed and actual values of pass-through costs of the PES (TSMO and DSO costs). This is best illustrated in the following example:

Table 2 KREV double-counting

		Allowed	Actual	t+1
Sales	GWh	3,000	2,800	3,000
Losses		25.0%	25.0%	25.0%
	GWh	1,000	933	1,000
Total energy	GWh	4,000	3,733	4,000
DUOS Charge	cent/kWh	1	1	1
Average Retail Tariff	cent/kWh	5	5	5
PES MAR	€	15000	14000	16000
of which DSO pass through	€	4000	3733	4267
DSO MAR	€	4000	3733	4267
PES KREV	€		1000	
DSO KREV	€		267	
DSO + PES MAR	€	19000	17733	20267
	€		-1267	1267

The example assumes that ERO has initially allowed a MAR of €15,000 of which €4,000 are pass-through costs to the DSO. It further assumes that the DSO is able to achieve the level of losses allowed by ERO and that actual sales are lower than those forecasted by 200 GWh. In this scenario, with the same retail prices, the Public Supplier will obtain an ARR of €14,000 which is €1,000 less than MAR. The DSO KREV (because of the smaller than forecasted energy flows) is also €267 (the difference between KREV MAR of €4,000 and KREV ARR of €3,733). The PES passes through the DSO MAR through its own KREV as a pass-through cost. Customers will therefore effectively be paying a €1,267 despite the fact that the PES ARR was only €1,000 less than MAR.

The Rules foresee that any identified mistakes in calculations and any divergence from the Rules can be compensated with interest during Regular Adjustments however they provide no guidance as to how identified mistakes in the Rules themselves should be accounted for. Given this obvious double-

counting it would be unreasonable to expect that customers should be penalized for a cost that has not actually occurred. I have therefore deducted this double-counting issue from MAR and recommended that they review the Rules to avoid the double-counting.

3.5 Change in billing determinants and their effect on PES KREV

One of the key elements affecting the MAR of the Public Electricity Supplier (but also that of the DSO and TSMO) is the difference between the Maximum Allowed Revenues (MAR) and the Actual Regulated Revenues (ARR). This difference is recovered by applying the *KREV* formula, as defined in Article 5 paragraph 3.2 and Annex 1 paragraph 2.4 of the PES Pricing Rule.

The purpose of the *KREV* is to ensure that, within each Relevant Year, the Public Supplier recovers the difference between Allowed and Actual revenues which may result from a difference in billed electricity. Differences in billing may occur as a result of the change in the volume of electricity consumed from year to year (changes between forecast and actual volumes of electricity which may occur due to changes in climate conditions, changes in economic growth rates, etc.). Regardless of the change in consumption, the Public Supplier – based on the forecast energy consumption – is obliged to purchase the electricity to supply the forecast demand. If the demand is lower than the forecast, then the Public Supplier is burdened with stranded costs for factors which are outside their control (such as the examples above). The *KREV* is meant to protect the public supplier from the occurrence of such events which are outside of the PES' control.

Nevertheless, actual revenues may differ from allowed revenues for reasons which are not directly related to change in the volume consumed. The Public Supplier applies Time-Of-Use (TOU) tariffs to encourage efficient consumption and shift demand away from the peak. MAR can therefore differ from ARR even if the total volume of electricity consumed is equal to that forecasted but the share of consumption between the peak and non-peak tariffs changes from the share forecasted. Such changes may happen in rare cases where customers significantly increase their energy efficiency awareness and decide to dramatically change their consumption patterns in favor of the non-peak tariff (they shift their consumption toward the night tariff). In such cases, when ERO is convinced that this is the reason of the shift in consumption, it is reasonable to compensate the PES by applying the *KREV* on the grounds that the change in the share of consumption is outside of PES' control.

A more realistic scenario under which KREV may have a positive value (ARR>MAR) if consumption remains the same is the change in the day-to-night consumption which may occur due to inaccurate billing with respect to the time the energy is consumed. Since the high tariff results in higher bills for customers, there is an incentive to tamper the time-clock of the meter such that the biggest share of consumption, that during the peak tariff, is billed with a non-peak tariff in order to lower their bills. Under such a scenario, the Public Supplier will not be able to bill the forecast MAR as the ratio of high tariff to low tariff billing has changed. In this case, however, the change in the share of consumption has occurred due to the tampering of the meters which are under the ownership and control of KEDS. In such cases, the Public Supplier should not be compensated for the difference between MAR and ARR.

In setting final electricity retail tariffs, ERO considers the Maximum Allowed Revenues to recover the reasonable costs of providing the regulated service as well as the estimated consumption in each

tariff category through which the MAR will be recovered. The ratio of the first to the second leads to the final retail tariff (€c/kWh). In their role as a Public Supplier, KEDS submits to ERO – during each Annual Adjustment – their own forecast of the *consumption* of electricity for the forthcoming Relevant Year. ERO has thus far obtained billing data rather than consumption data from the public supplier. As stated above, an electricity unit may be billed at a low tariff although it may have been consumed at a high tariff due to the fact that the meters are not synchronized with real time[4] - a situation which has generally favored household customers with mechanical metering devices. ERO has thus far set the retail tariff level under the assumption that the physical data submitted to ERO reflects *actual* consumption rather than *billed* consumption. Data obtained from the Transmission, System and Market Operator suggest that the energy entering the distribution is heavily biased towards the peak tariff (around 70% high tariff vs. 30% low tariff) whereas KEDS expect this ratio to be rather equal (55% on the high tariff vs. 45% on the low tariff). KEDS would therefore be able to achieve a higher level of MAR with the existing level of tariffs if they are able to properly apply the approved tariff structure and bill the electricity at the proper time-slot when it is consumed. This further implies that KEDS would have been able to recover the MAR this year had all customers been billed properly as is the case for electronically metered customers. The situation presents a cross-subsidization between household customers on the favor of the customers with mechanical meters and therefore needs resolving.

Numerous scenarios should be considered before a decision is taken on the matter. Allowing the current situation to continue would imply permitting a discriminatory treatment between regulated household customers. Furthermore, by accepting the actual high-to-low billing ratio, ERO would effectively remove any incentives for KEDS to speed up the implementation of modern metering devices which enable accurate metering of electricity customers and enable the proper implementation of the tariff structure. ERO notes that the proper implementation of this structure provides strong incentives for efficient utilization of electricity, shifting demand away from the peak thereby avoiding investments which would otherwise have been financed by more investments with a high cost of capital.

Data on actual billing provided by KEDS suggests that the proportion of electricity billed under the high tariff and that billed under the low tariff has not changed significantly over the past 4 years as the share of electricity billed under the high tariff in 2013 is only 2 percentage points higher than the one in 2010 (48% in 2013 against 46% in 2010). However in 2013, while conducting a cost of service study, ERO obtained actual billing data from a sample of 870 electronic meters for the months of February, March and April 2013. Since the data obtained include only electronic meters, it can be considered a better representative of the consumption ratio than data from mechanical meters as electronic meters do not have time-of-use billing problems. These data suggest that 72.6% of the energy is billed on the high tariff whereas 27.4% of the energy is billed on the low tariff.

[4] The non-synchronization of the meters also occurs due to load-shedding. Most mechanical meters do not have batteries to power the clock of the meter during load-shedding. In such cases, when the power Is restored, the clock of the meter lags the real time by the duration of the time that the load is shed. As load is shed numerously throughout the year, the time-clock of the meter tends to bill half of the consumption during peak tariffs and the other half during non-peak tariffs. This situation has generally favored household customers with mechanical metering devices as their consumption tends to be biased towards the peak tariff period. Electronic meters have resolved this issue.

The overall high tariff billing ratio of 48% achieved by KEDS in 2013 could have been improved had they managed to install the 66,000 meters for which they received an Allowed Return in MAR 2013. KEDS have shown that in 2013 they have only installed 29,511 new electronic meters which is less than the 56,884 installed by KEK in the previous year.

The default scenario included in the PES Consultation Paper was that ERO should set 2014 Billing Determinants with the assumption that sales will be billed according to actual consumption (i.e. 72% on the high tariff rather than 49% as envisaged by KEDS). The reason for this default scenario is that it provides the strongest incentive for KEDS to continue with the electronic meter roll-out program. However ERO also has to take into consideration that this is a situation that has been inherited by the new DSO owner and lower alternatives should be considered.

3.6 Not achieving the loss target and the potential impact on KREV

ERO was advised to investigate whether the PES KREV formula was compensating KEDS for underachieving the losses. The KREV formula, as given in the PES Pricing Rule, is as follows:

$$KREV_t = (MAR_{t-1} - ARR_{t-1}) * (1 + I_t)$$

Where

ARR_{t-1}	*is the Actual Regulated Revenues in Relevant Year t-1*
MAR_{t-1}	*is Maximum Allowed Revenues as determined in Relevant Year t-1*
I_t	*is the interest rate for the Relevant Year t calculated based on EURIBOR plus S%, where S is a value to be determined by the Regulator at Periodic Reviews and which reflects the premium payable by the licensee for short-term loans above the EURIBOR rate*

The concern is that if the DSO does not achieve the loss target then even if the same energy assumed enters the distribution system (i.e. demand is the same), this same energy will not be billed because of higher than allowed commercial losses and, therefore, ARR will be lower than MAR. ERO was advised to look into the matter and undergo a public consultation so that all affected parties are involved. This issue was not included in the Report.

3.7 Tariff Structure Amendments

The Consultant agrees with the view that removing the TOU and Seasonality components of the current tariff structure will ultimately remove any incentives for customers to avoid consuming electricity for heating in the winter. Using electricity for heating is an extremely inefficient practice and the existing tariff structure aims to discourage this behavior.

Furthermore the timely implementation of the Simple Electronic Meter (SEM) roll-out plan will help avoid any billing issues between TOU prices in the future and the signal to avoid peak consumption will be much stronger for customers.

It was finally recommended that ERO continue to apply the current tariff structure at least until more accurate load profile data can be generated from SEM electronic meters. Altering the tariff

structure without the necessary statistical analysis may lead to a cash-flow problem for the licensees. Furthermore, removing the TOU and seasonality components will also remove any incentives for customers to rationalize their peak consumption effectively leading to an increase in demand during the peak time which will have to be met with additional investments, increase in imports and an increase in average costs which could have been avoided simply by not changing the tariff structure. A detailed summary of these arguments is given in Section 4 of the PES Consultation Paper.

4 Summary of Results

This section of the Report provides a summary of Key Issues identified by the Consultant and recommended next steps. The Recommendations provided in this table should be understood within the context of the situation elaborated in Section 3 of this Report and in the Consultation Papers provided in Annex 1.

Topic	Issue	Recommendation
Allowed Losses	ERO's Regulatory Parameters Decision (Decision 399 of February 6 2012) sets the reduction level of the Distribution Losses for the next 6 years following the Decision. KEK was the owner and Operator of the Distribution System during the first year of the implementation of the Decision and failed to meet the target set by ERO. The new owner would therefore be required to reduce their own share of the target (3%) plus the part which KEK did not achieve in the previous year (1.9%). KEDS is therefore asking to reset to start from what KEK actually achieved when KEDS took over.	The Board of ERO was advised to take the Decision in order to facilitate the privatization transaction and to provide a common bidding platform for financial offers. Changing the Decision may lead to complaints from the losing bidder that the risk of KEK not achieving the target was internalized into their lower financial offer. ERO should therefore consult stakeholders, including the KEDS Post-privatization unit, to get their opinion on whether ERO has a legal right to amend the Decision.
WHPC Calculation and Circularities	The current version of the Pricing Rules generates numerous Circularities which have to be avoided when Modeling the MAR. In calculating WHPC, the PES pricing Rule states that revenues of the PES from sales of losses to the TSO and the DSO should be deducted from the wholesale energy costs. However these revenues are the product of the volume of allowed losses (in GWh) and the weighted average power purchase costs (WHEA – expressed in €/MWh). The latter depends on the wholesale power costs which is dependent on the PES revenues from losses. Another circularity arises due to the fact that Regulated Generator revenues (part of the WHEC component of WHPC) include the costs of System Operator (SO) charges which	ERO was advised to calculate the WHPC for the second Relevant Year as in the Clarification Letter issued last year for consistency but to revise the Pricing Rules to amend the circularities.

	are paid by the Regulated Generator. SO charges depend on transmission losses and these depend on the Weighted Average Power Purchase Costs (WHEA) which depends on Power Purchase Costs which depend on Regulated Generator Revenues, including SO Charges.	
KREV Double-counting	Applying the full KREV as in the Pricing Rules compensates the PES twice for the difference between MAR and ARR of the DSO and TSMO. This is due to the fact that the PES will already have paid lower fees to DSO and TSMO for the provision of their services due to the lower than forecasted energy flows.	ERO should deduct the value which is considered to be an overcompensation but should do so in a fully transparent manner by informing all stakeholders, particularly PES, to ensure that they understand that the customers should not be penalized for this obvious double-counting.
Billing determinants	The high-to-low tariff ratio which KEDS was able to bill during the first Relevant Year differs from the actual ratio due to fallacies in the mechanical meters. The existing tariffs assume that the billing ratio is equal to that reported by KEDS and this is true for the average customer but not for the electronically metered customer. Customers with an electronic meter are discriminated against because they effectively pay a higher price since they consume a higher proportion of energy on the high tariff than assumed by ERO.	ERO should seek to provide incentives to the DSO to improve their meters by installing electronic meters to all customers to avoid further discrimination. In order to do so ERO may consider to assume a higher High-to-Low tariff ratio than that currently faced by KEDS. Nevertheless in setting the assumed ratio ERO should take into account that the new investor inherited this situation.
KREV connection to losses	The KREV formula of the PES may potentially be compensating KEDS for not achieving the loss target. If the DSO does not achieve the loss target then even if the same energy assumed enters the distribution system, this same energy will not be billed because of higher than allowed commercial losses and, therefore, ARR will be lower than MAR.	ERO was advised to look into the matter and undergo a public consultation so that all affected parties are involved.
Tariff Structure	ERO issued a Public Consultation to amend the existing Tariff Structure following concerns of the Parliament that the current tariff structure was not correct.	The existing tariff structure should stay in place as it provides the strongest incentives for an efficient energy consumption and energy savings.

5 Next steps

This section of the Report provides a summary of the next steps which need to be undertaken by ERO and the associated timelines.

1. **Losses Decision.** The Rules do not foresee a change in the Regulatory Parameters within a Regulatory Period. Nevertheless the request to reset the losses was communicated to ERO in

numerous occasions prior to the commencement of the Regular Adjustments process therefore a public consultation process resulting in a clear position on the loses should have been undertaken by this stage. ERO can therefore execute the following two options:

a) Initiate a public consultation process now and consult relevant stakeholders prior to taking a Decision. This will delay the implementation of the Tariff Decision by 2-4 weeks depending on the nature of the comments and the complexity of the matters involved. This can complicate the tariff-setting process as it poses a delay on the cross-payments between Regulated Entities in the sector.
b) Take a decision on tariffs and then initiate a public consultation process for the losses. ERO can then compensate all relevant parties if the outcome of the consultation process results in a Decision to reset the losses.

2. **WHPC Calculation and Circularities.** This issue does not affect the current Tariff Decision. ERO was advised to take the Decision in line with its commitments in the Clarification Letter issued after their ETR7 Decision. Nonetheless ERO should initiate the process of revising the Rules to correct for these apparent circularities.

3. **KREV Double counting**. This issue is already included as a default scenario in the Draft Reports and implemented in the model. No action need to be taken if ERO agrees that the apparent double-counting should be resolved without changing the Rules. The issue should also be resolved in the Rules as they should be subsequently amended.

4. **Billing Determinants**. The current draft of the Reports already assumes that ERO will set the Billing Determinants to match actual consumption patterns rather than those which KEDS is able to bill to customers. Nevertheless ERO should clearly inform all stakeholders of the problems arising from the current billing issues and clarify its intentions.

5. **KREV and losses compensation**. ERO should first assess whether this is a problem and, if the result of this assessment is positive, initiate a public consultation to identify the best means to amend it. This would require a change in the Pricing Rules and can be aligned with other evidently necessary amendments to the Pricing Rule.

6. **Tariff Structure amendments**. No action is necessary should ERO agree to keep the existing tariff structure in line with the Consultant's recommendations.

6 Support to ERO

The technical assistance provided to ERO produced the necessary documents and modeling to calculate the Regular Adjustments based on the information available to the Consultant during the implementation of the project. In the near term, ERO would require technical assistance for the following issues in the near term:

Losses reset and their calculation;

1. Assessing whether KREV is compensating for not achieving the losses;
2. Revising Rules to correct for the generated circularities, WHPC calculations and KREV double-counting for the DSO and TSO;

3. Preparing draft Decisions for DSO and TSMO Charges and Retail Tariffs;
4. Support in calculating Generation charges;
5. Support in setting the Availability Target for the Regulated Generator;

7 Deliverables

In addition to daily recommendations regarding modeling and the tariff regulation process, ERO were provided with the following Deliverables:

1. Draft Consultation Paper for Wholesale Power Costs;
2. Draft Consultation Paper for the Maximum Allowed Revenues (MAR) of the Transmission, System and Market Operator (KOSTT);
3. Draft Consultation Paper for the Maximum Allowed Revenues (MAR) of the Distribution System Operator (DSO);
4. Draft Consultation Paper for the Maximum Allowed Revenues (MAR) of the Public Electricity Supplier (PES);
5. An excel model which calculates the Regular Adjustment and Annual Update;
6. A copy of the presentation which was delivered to the Board on 25 April 2014.

ZYRA E RREGULLATORIT PËR ENERGJI
ENERGY REGULATORY OFFICE
REGULATORNI URED ZA ENERGIJU

Annex 1: Draft Consultation Papers

DISCLAIMER

This Report has been prepared to assist ERO in addressing the issues relevant to the tariff review. The report presents the default scenario of the other alternative solutions provided by the consultant and should not be considered to represent a legal opinion on the matters addressed.

25 April 2014

ZYRA E RREGULLATORIT PËR ENERGJI
ENERGY REGULATORY OFFICE
REGULATORNI URED ZA ENERGIJU

Consultation Paper

The Eighth Electricity Tariff Review

ETR8 (2014-2015)

Wholesale Power Costs Calculation

DISCLAIMER

This Consultation Paper has been prepared by ERO for the purpose of informing stakeholders. It does not represent a decision by the ERO and should not be interpreted as such.

April 2014

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1 Introduction

The Energy Regulatory Office is currently in the process of conducting the Eighth Electricity Tariff Review for the Public Electricity Supplier (PES) and the Regular Adjustment for the Second Relevant Year of the ETR7 Tariff Review for the Regulated Generator (KEK), Transmission, System and Market Operator (KOSTT) and the Distribution System Operator (DSO). This is the first time ERO undergoes a Regular Adjustment process with the newly adopted Pricing Rules which allow for multi-year tariff controls.

This Report presents ERO's views on the allowed Wholesale Power Purchase Costs for the second Relevant Year. ERO would hereby like to invite all stakeholders to comment on ERO's proposals given in this Consultation Paper. Comments may be submitted until ## April 2014 and should be sent either by email to ero.pricing-tariffs@ero-ks.org, with the subject line "ETR8 Comments", or by mail to the address of ERO: Rr. Dervish Rozhaja Nr.12, 10000 Prishtinë, Kosovë, marked for the attention of "Pricing and Tariffs Department".

At this stage, ERO has taken no decisions on the MAR which will be effective from April 1st. These are preliminary proposals. ERO invites all stakeholders to provide comments on ERO's views presented in this Paper.

2 Annual Updates and Regular Adjustments

In 2013 ERO conducted the Periodic Review Process (ETR7) during which it set the Maximum Allowed Revenues for the next five Relevant Years for the Regulated Generator (KEK), the Transmission System and Market Operator (KOSTT) and the Distribution System Operator (DSO). The Maximum Allowed Revenues of the Public Electricity Supplier (PES) were set for one year during the Input Values Review process as per the Rule on Public Electricity Supplier Pricing.

The Pricing Rules approved by ERO state that a Regular Adjustment process shall be undergone between each Relevant Year in order to calculate the permitted change in Maximum Allowed Revenues. This includes updating the loss allowance for forecast and actual energy flows, indexing allowed Operating and Maintenance costs, Depreciation Allowance and Allowed return to inflation and applying the pre-set efficiency factors for these licensees. The Regular Adjustment Process differs from a full-blown Periodic Review in which ERO would undergo a detailed review of the Allowed Operating and Maintenance Costs, allowed losses and efficiency factors and Allowed Capital Expenditure Programs. During Regular Adjustments, ERO only mechanically adjusts for differences between allowed and actual values of what has already been allowed during Periodic Reviews.

The Maximum Allowed Revenues of the PES are set for a one year period but the Input Values, which are used in calculating the MAR of the PES, are set during Input Values Reviews and are fixed for a prolonged period of time. The MAR of the PES is reset during each Annual Update to correct for differences between forecast and actual costs, under or over-recovery of MAR in the Relevant Year due to differences between forecast and actual billing and under or over-recovery of MAR due to differences between forecast and actual wholesale power costs and forecast and actual pass-

through costs, subject to any sharing between the PES and Regulated Customers of imbalance costs and export revenues.

During the last Periodic Review Process, ERO set the allowed level of Operating and Maintenance costs, allowed capital expenditures, Efficiency Factors, Economic Asset Lives, Profiling Factors[5] and Weighted Average Cost of Capital and the S-factor of the Regulated Generator, TSMO and DSO. Therefore the overall level of these allowances is not a subject of discussion during the Regular Adjustment process. As per the principles of the Pricing Rules, during the Regular Adjustment ERO will:

10. Index the Allowed Operating and Maintenance Costs of all licensees for the Efficiency Factor which is set during the Periodic Review process and for Annual Inflation which is set using the Harmonized Index of Consumer Prices (HICP) for All Items in the Eurozone;
11. Set the Availability Target of the Regulated Generator;
12. Set the Energy Charge and the Capacity Charge of the Regulated Generator;
13. Update the Allowed Lignite Supply Costs (LGSCt) of the Regulated Generator. This update includes the pre-set Operating and Maintenance Costs, Depreciation and Allowed Return of the Mine by following the same principles as for the Regulated Generator. The pre-set LGSCt will include the difference between actual and allowed lignite supply costs in the first Relevant Year of the Regulatory Period;
14. Update the Other Fuel Costs (OTFCt) of the Regulated Generator to include differences between allowed and actual costs in the first Relevant Year of the Regulatory Period;
15. Calculate the Wholesale Power Purchase Costs which include the cost of purchasing power from the Regulated Generators, Imports and the Retail Margin. These are updated to reflect the difference between allowed and actual power purchase costs in the previous Regulatory Period;
16. Set the Allowed Cost of Losses (LSSCt) for the Transmission System and Market Operator (KOSTT) and update these to include the difference between allowed and actual cost of losses for the previous Regulatory Period, which may have arisen due to changes in wholesale power costs or changes in the flows of electricity in the transmission system;
17. Update TSO MAR to reflect revenues generated through the Inter-TSO Compensation Mechanism;
18. Update TSO MAR to reflect the difference between Allowed and Actual Regulated Revenues in the previous Relevant Year (t-1);
19. Calculate the Renewable Energy Surcharge which will be used to finance the Renewable Energy Fund (REF) in order to pay the Feed-in Tariffs for RES Generators admitted to the Renewable Energy Sources (RES) Support Scheme;
20. Set the Transmission Use of System, Market Operator and System Operator Charges;
21. Set the Allowed Cost of Losses (LSSCt) for the Distribution System Operator (DSO) and update these to include the difference between allowed and actual cost of losses for the

[5] ERO has not set a Profiling Factor however these can only be set during Periodic Reviews.

previous Regulatory Period, which may have arisen due to changes in wholesale power costs or changes in the flows of electricity in the Distribution system.

22. Update DSO MAR to reflect the difference between Allowed and Actual Regulated Revenues in the previous Relevant Year (t-1);
23. Set the Distribution System Operator Charges;
24. Calculate the Allowed Retail Costs of the Public Electricity Supplier, which include the costs of operating and maintaining the PES activity, corporate costs, depreciation allowances and other reasonable costs of the PES;
25. Set the new PES MAR by including the difference between allowed and actual billing in the previous Regulatory Period;
26. Set the new Retail Tariffs;

3 The structure of this paper

This Consultation Paper is organized as follows:

- Section 4 lays out the Energy Balance assumed by ERO for the second Relevant Year of the Regulatory Period;
- Section 5 reviews the Regulated Generator's tariff application and sets out ERO's proposals for Regulated Generator MAR;
- Section 6 reviews the Wholesale Power Costs (WHPC) application and sets out ERO's proposals for the Allowed Wholesale Power Costs for the next Regulatory Period;

4 Energy Balance

The Energy Balance is the key input of the tariff-setting process and as such has the greatest impact on the cost of providing Regulated Service to the electricity sector. The Energy Balance used in ERO's modeling work used inputs from the Energy Balance approved by the Ministry of Economic Development (MED) for 2014. The Energy Balance was constructed using a bottom-up approach where the forecast value of distribution sales was used as a start. The percentage of allowed losses was then used in order to calculate the level of energy required to enter the distribution system, net of distribution-embedded generation. Transmission level demand, losses and exports were added to the distribution consumption. The difference between the resulting value and domestic generation (KEK Generation and Ujmani) is the import volume required to balance production and demand.

4.1 Allowed Transmission Losses

The Allowed Level of Transmission Losses has been set at 1.8% as established during the Periodic Review Process.

4.2 Allowed Distribution Losses[6]

On 6 September 2012, the Board of the Energy Regulatory Office approved the Regulatory Parameters (the Decision) which ERO should use as input values setting the Maximum Allowed Revenues for the next Regulatory Period (2013-2017, including the first transitional year in the ETR6 Tariff Review)[7]. The Decision set - among critical factors such as the WACC, Bad Debt Allowance and Efficiency Factors – the level of Distribution Losses (for the next 1+5 Relevant Years of the forthcoming Regulatory Period) which the DSO would be allowed to recover from Regulated Tariffs. The Decision stated that the allowed level of losses would start from the actual losses in 2011 and be

[6] The version included in this Report is the Default version without prejudice to ERO's view on changing the Losses Decision.

[7] Decision 399 of the Board of the Energy Regulatory Office available on ERO's web-site (http://ero-ks.org/Vendimet/English/2012/D_399_2012.pdf)

reduced by 3 percentage points in each of the first three years followed by 2.5 percentage points in the subsequent final three years.

In their tariff submission, KEDS argue that the level of distribution losses which should be recovered in ETR8 tariffs should be reset to start from the actual level of losses achieved by KEK in the first transitional year less three percentage points. KEDS make their argument on the grounds that KEK did not achieve the full three percentage point reduction, as they were supposed to, and therefore KEDS will have to reduce losses by the three percentage points, as per the decision of ERO, plus the difference between ERO's target (3% points) and what KEK actually achieved in the previous year (1.1% points). KEDS would therefore have to reduce the loss target by 4.9% points for the first year of control rather than 3% as required by ERO.

ERO has not set a final position on the loss reset issue. The value of the targets has a direct impact on the level of tariffs and ERO is therefore required to consult all stakeholders prior to taking a position on the matter[8]. Resetting the loss target may lead to significant increased costs of electricity supplied to customers as any additional energy that would have to enter the distribution system would be charged at the import price. The Decision was one of the main requests of the Transaction Advisors to the Government of Kosovo for the KEDS Privatization Transaction and it was meant to provide predictability of the level of tariffs and a basis upon which financial bids would be offered. The bidders may have therefore assumed the risk of the incumbent utility not being able to reach the target and may have factored this into the bidding price. Changing the Decision may be interpreted as changing the terms upon which a competitive bidding process was carried out and may lead to complaints of the losing party thereby risking the transaction process. ERO therefore needs to consult relevant stakeholders, including the KEDS Post Privatization Unit, to obtain their opinion on these matters. Until this consultation process is conducted, ERO will continue to apply Decision 399 and has set the loss target by deducting three percentage points from the value applied in the previous Relevant Year, as explained in the section below.

4.2.1 Setting the loss target

Decision 399 does not make a distinction between distribution system losses and unbilled supplies in the application of the loss target. Applying the 3% loss target to all losses would imply requiring the DSO to reduce losses of unbilled supplies, in an area which it has no control over. ERO will therefore only apply the 3% target on the sum of technical and commercial losses.

In calculating the allowed distribution losses for the first Relevant Year of the Regulatory Period, ERO made this distinction by subtracting 3% points from the level of allowed distribution losses in ETR6. However in calculating the distribution losses for the first Relevant Year, ERO also changed the way it calculated distribution losses. Allowed technical and commercial losses under ETR6, set at 30.4%, were calculated as the ratio of the total technical and commercial losses to the total demand which included unbilled supplies:

[8] Article 26 paragraph 1 of the Law on Energy Regulator requires that ERO undergoes a public consultation for issues with a significant impact on the electricity market including all issues related to tariffs.

Allowed Losses = 30.4% = (TL+CL) / (TL + CL + US + DC)

Where

TL = Technical Losses

CL = Commercial Losses

US = Unbilled Supplies

DC = Distribution-level demand

The allowed technical and commercial losses under ETR6 were 1,399.2 GWh.

Under ETR7, ERO calculated the loss target by deducting 3 percentage points from the allowed level of 30.4% in ETR6. The resulting loss target was set at 27.4%. However, between ETR6 and ETR7, ERO also changed the way it calculated the loss target. The allowed losses calculated by ERO at 1,227 GWh equaled 27.4% but only after deducting unbilled supplies from the denominator:

Allowed losses (ETR7) = 27.4% = (TL + CL) / (TL + CL + DC)

Had losses been calculated in the same manner as in ETR6 then the resulting effective level of losses allowed by ERO in the first Relevant Year of ETR7 would be 26.2%. The resulting rate of 1,227 GWh would have been 1,308 GWh had ERO used the same loss calculation methodology as under ETR6.

In a Clarification Letter sent to the licensees, ERO acknowledged the fact that they had changed the loss calculation methodology between ETR6 and ETR7 and that this had lead to an unintentional under-allowance of DSO losses under ETR7. ERO reviewed the loss target but continued to apply the approach that the target should be applied to technical and commercial losses only and that these should be calculated as the ratio of these losses to total distribution demand excluding unbilled supplies as this energy does not enter the distribution system. In order to achieve the same loss allowance of 1,308 GWh, ERO increased the allowed distribution losses to 26.6%. The loss target for the second Relevant Year was calculated by deducting three percentage points from this allowance, resulting in an allowed loss level of 25.6%.

Using the approved energy balance expected sales for 2014 and building up from it through the distribution losses, the value of energy entering the distribution system to supply regulated customers was calculated to be 4,474 GWh. Transmission-connected demand (Ferronikeli, Sharrcem and Trepca) energy exports, LOMAG consumption and transmission-level losses together sum up to 1490 GWh, making total energy consumption 5,965 GWh. KEK Generation, Ujmani and Distribution-embedded generation together are expected to produce 5,482 GWh. The difference between consumption and production will be met by imports of 483 GWh. The energy balance as calculated by ERO is summarized in the following table:

Table 3 2014 Energy Balance

Energy Balance		ETR7 Allowed	ETR7 Clarification Letter	ETR7 Actual	ETR8 Allowed
KEK Generation		5,592.0	5,592.0	5,877.5	5,354.4
Kosovo A	GWh	1,848.0	1,848.0	2,014.0	1,758.4
Kosovo B	GWh	3,744.0	3,744.0	3,863.4	3,595.9
Other Transmission Connected Generation					
HPP Ujmani	GWh	80.0	80.0	99.4	82.0
Transmission-connected Demand		621.9	621.9	487.1	617.1
Ferronikeli consumption	GWh	527.0	527.0	403.2	526.7
Trepca	GWh	94.9	94.9	84.0	27.1
Sharrcem	GWh				63.3
Other Transmission - level consumption		295.0	295.0	287.1	283.1
Mine consumption	GWh	140.0	140.0	128.5	138.0
Kosovo A supply from Transmission	GWh	72.0	72.0	107.2	53.2
Kosovo B supply from Transmisison	GWh	83.0	83.0	51.4	91.9
Transmission Losses	%	1.8%	1.8%	1.7%	1.8%
	GWh	111.2	112.6	110.3	106.9
Energy Entering Transmission System		6,177.0	6,254.5	6,491.9	5,940.1
Exports	GWh	492.0	492.0	857.0	484.0
Total Production	GWh	5,672.0	5,672.0	5,976.9	5,436.4
Imports	GWh	505.0	582.5	521.4	503.8
Energy Required to meet Transmission Load	GWh	1,520.1	1,521.5	1,741.6	1,491.1
Energy Required to meet Distribution Load	GWh	4,656.9	4,733.1	4,750.3	4,449.1
Distribution Generation					
Distribution-embedded generation	GWh	35.0	49.0	43.9	46.3
Wind Power j.s.c.	GWh				
Distribution Consumption	GWh	4,691.9	4,782.1	4,794.2	4,495.4
Distribution losses and unbilled energy					
Technical and commercial losses	%	27.4%	28.6%	32.5%	25.6%
	GWh	1,227.5	1,308.5	1,485.9	1,098.2
Unbilled supplies	%	4.52%	4.43%	4.55%	4.69%
	GWh	212.0	212.0	218.2	211.0
Total losses	GWh	1,439.5	1,520.5	1,704.1	1,309.2
Sales to final customers	GWh	3,252.4	3,261.6	3,090.1	3,186.2

5 Regulated Generator MAR

ERO input

6 Wholesale Power Costs (WHPC) of the Public Electricity Supplier (PES)

This section of the Consultation Paper presents ERO's views on the allowed Wholesale Power Costs (WHPC) which the Public Electricity Supplier (PES) will be allowed to recover through the regulated tariffs. According to Article 13 of the Public Electricity Pricing Rule, wholesale Power Costs include:

- Wholesale Capacity Costs (WHCC) which represents costs which are meant to cover capacity charges from domestic generation capacities, which is contracted for guaranteeing security of supply and which is dedicated to regulated customers;
- Wholesale Energy Costs (WHEC) which comprise of:
    - The costs of purchasing electricity from domestic generation;
    - Energy import costs;
    - Energy export costs (as a negative cost), which are subject to an export sharing factor;
    - Net imbalance costs – which are subject to an imbalance sharing factor.
- A Retail Margin which provides a reasonable return to the PES to compensate it for the risk it assumes while offering standard services to regulated customers.

The export sharing factor is momentarily set at 100% which implies that all of the energy export revenues are excluded from the calculation and returned to the customers (as a negative cost). There are no imbalance costs at the moment therefore the net imbalance costs of the calculation is set to zero.

6.1 WHPC under ETR7 and Circularities generated by the Rules

Wholesale Power Costs, as defined by the Pricing Rule, generate a number of circularities which need to be dealt with in modeling the calculations.

One of these circularities arises due to the deduction of losses revenues from the WHPC. Paragraph 5 of Article 13 of the PES Pricing Rule states that revenues of the PES from sales of losses to the TSO and the DSO should be deducted from the wholesale energy costs. However these revenues are the product of the volume of allowed losses (in GWh) and the weighted average power purchase costs (WHEA – expressed in €/MWh). The latter depends on the wholesale power costs which is

dependent on the PES revenues from losses. This presents a circularity issue as the losses revenues depend on the WHPC and vice-versa.

Another circularity arises due to the fact that Regulated Generator revenues (part of the WHEC component of WHPC) include the costs of System Operator (SO) charges which are paid by the Regulated Generator. SO charges depend on transmission losses and these depend on the Weighted Average Power Purchase Costs (WHEA) which depends on Power Purchase Costs which depend on Regulated Generator Revenues, including SO Charges. This presents a further circularity.

In a Clarification Letter issued on XX April 2013, ERO clarified – among others - that it has recalculated the WHPC component of MAR by not deducting revenues earned from sales of losses to the DSO and the TSO and by excluding SO Charges from the Regulated Generator MAR. This value has been included as an input in this Relevant Year to avoid the circularity.

6.2 Assumed Import and Export price

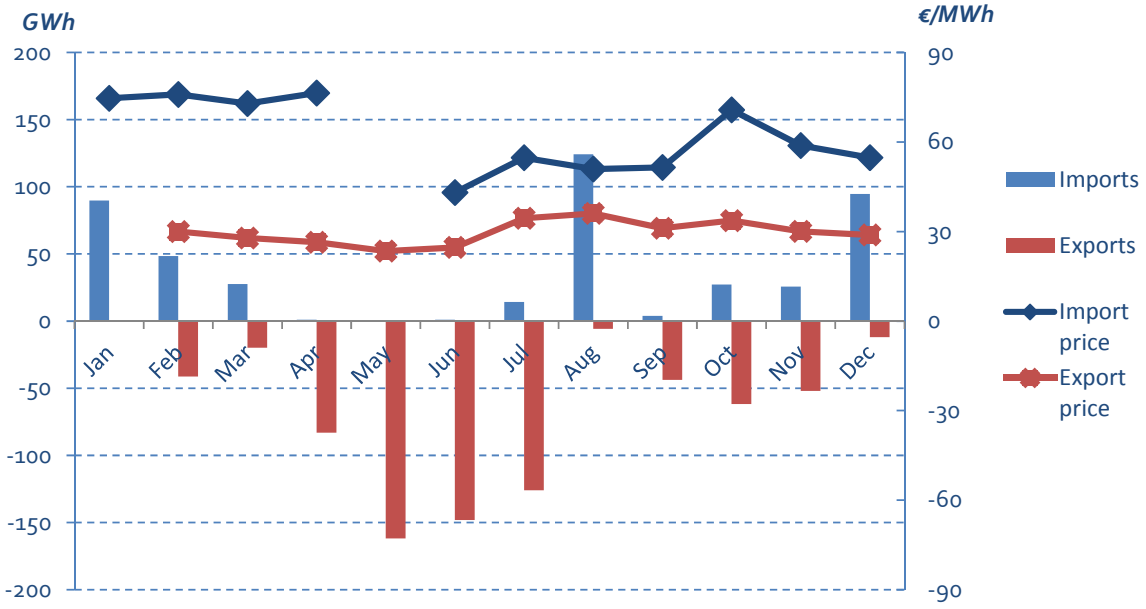
In Part 1 of the Regular Adjustment Process "Wholesale Electricity Price Application", KEDS provided forecast import and export values for 2014.

The allowed import price for 2014 was 70 €/MWh whereas the actual import price reported by KOSTT is 62.18 EUR/MWh. KEDS proposes that ERO should continue to allow for an import price of €70/MWh as, according to KEDS, this was calculated based on realized amounts and expected price changes in the region. KEDS also propose that the forecast export price for 2014 should be set to the based on the actual export price for the previous year to 24.90 €/MWh, which is lower than the actual value reported by KOSTT of 28.25 €/MWh. KEDS seem to have applied inconsistent approaches to calculating the export and import price as it is not clear why they expect the export price to decrease and the import price to increase over 2014.

Consistent with previous practice, ERO has consulted the European Energy Exchange database for an indication of the trend of electricity prices in European markets. Specifically, Phelix Base Futures[9] data suggests that the average price of electricity for the previous year (04/2013 – 04/2014) has fallen by around 15%. This decreasing trend is evident in the actual import prices of the last three months of 2013 compared to those of the first three months of 2013 as shown in Figure 1 below.

[9] https://www.eex.com/en/market-data/power/derivatives-market/phelix-futures#!/2014/03/27

Figure 1 2013 imports and exports



There is no evidence to support KEDS' claim that electricity import prices should rise during 2014 while export prices should fall. On the contrary, EEX data suggests this trend is decreasing. Nonetheless, in order to avoid possible cash-flow concerns in setting the2014 WHPC, ERO will set an import and export price which is closer to actual 2013 values. The assumed electricity import price for 2014 is therefore set to 60 €/MWh whereas the assumed electricity export price is set to 30 €/MWh.

6.3 S-factor and interest rate for adjustments

According to Schedule 1 Article 2.1 of the PES Pricing Rule, the interest rate applicable to the MAR of PES in any Relevant Year is calculated based on EURIBOR plus S% where S is a value determined by the Regulator at Annual Updates which reflects the premium payable by the licensee for short term loans. This is different from the principle applied in the other Pricing Rules[10] where the S value is set during Periodic Reviews and is kept constant throughout the Regulatory Period.

ERO has reset the S value of applicable for adjustments of the Public Electricity Supplier as follows:

The Kosovo Lending Rate has been obtained from the Kosovo Central Bank's Monthly Statistics Bulletin Table 14.2 (ODC Effective Interest Rates – loan interest rates)[11]. The value obtained is the investment business loan rate for loans up to 1 year. This value, for January 2014, is 13.08%

[10] Namely the Generation, Transmission and Distribution Pricing Rule

[11] http://www.bqk-kos.org/repository/docs/2014/MSB%20no.%20149.%20english.pdf

The final interest rate for adjustments is the value for January (13.08%) less the EURIBOR for January (0.537 – 1-year EURIBOR for January 2014) + 0.598 (the current EURIBOR rate) = 13.14%.

6.4 Adjustments for allowed and actual power purchase costs for 2013

During each Annual Update ERO adjusts PES' Wholesale Power Costs for the differences between forecast and actual power costs in the previous year. Total power purchase costs allowed in 2013 were €169.2 million whereas those actually incurred by PES were €155.8 million. The difference of -€13.3 million is clawed back with the applied interest rate as specified in Paragraph 2.2 of Schedule 1 of the PES Pricing Rule.

Table 4 Wholesale Power Costs (WHPC) calculation summary

Wholesale Power Purchase Costs		ETR7 Allowed	CL	ETR7 Actual	ETR8 Allowed
Domestic generation					
KEK Generation	€/MWh	27.0	26.6	25.8	25.9
	€000s	150,957	148,568	151,416	138,788
HPP Ujmani	€/MWh	27.5	27.5	27.5	27.5
	€000s	2,200	2,200	2,444	2,255
Distribution-connected generation (average)	€/MWh	43.8	43.8	42.4	43.8
	€000s	1,533	2,146	1,863	2,028
Imports					
Contracted imports	GWh	505.0	582.5	521.4	503.8
	€/MWh	70.0	70.0	54.6	60.0
	€000s	35,351	40,778	28,448	30,226
Exports					
Contracted exports	GWh	492.0	492.0	857.0	484.0
	€/MWh	28.0	28.0	24.9	30.0
	€000s	13,776	13,776	21,342	14,520
Power purchase costs					
KEK Generation	€000s	150,957	148,568	151,416	138,788
Other domestic generation	€000s	3,733	4,346	4,307	4,283
Imports	€000s	35,351	40,778	28,448	30,226
Total power purchase costs	**€000s**	**190,041**	**193,692**	**184,171**	**173,297**
Exports	€000s	-13,776	-13,776	-21,342	-14,520
Subsidies	€000s	-11,500	-11,500	-11,500	0
WHEC + WHCC	€000s	164,765	168,416	151,329	158,777
Retail Margin					
Retail Margin	%	3%	3%	3%	3%
Retail Margin costs	€000s	4,488	5,052	4,540	4,763
WHPC	**€000s**	**169,253**	**173,469**	**155,869**	**163,541**
WHPCat-1 - WHPCft-1	€000s		0	0	-13,384.0
It	%		0	0	13.14%
(WHPCat-1 - WHPCft-1)*(1+It)	€000s		0	0	-15,142.8
WHPCf	**€000s**	**169,253**	**173,469**	**155,869**	**148,398**

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ENERGY REGULATORY OFFICE
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Consultation Paper

The Eighth Electricity Tariff Review

ETR8 (2014-2015)

KOSTT MAR Calculation (Relevant Year 2)

DISCLAIMER

This Consultation Paper has been prepared by ERO for the purpose of informing stakeholders. It does not represent a decision by the ERO and should not be interpreted as such.

April 2014

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1 Introduction

The Energy Regulatory Office is currently in the process of conducting the Eighth Electricity Tariff Review for the Public Electricity Supplier (PES) and the Regular Adjustment for the Second Relevant Year of the ETR7 Tariff Review for the Regulated Generator (KEK), Transmission, System and Market Operator (KOSTT) and the Distribution System Operator (DSO). This is the first time ERO undergoes a Regular Adjustment process with the newly adopted Pricing Rules which allow for multi-year tariff controls.

This Report presents ERO's views on the Maximum Allowed Revenues of the Kosovo Transmission, System and Market Operator (KOSTT) for the second Relevant Year. ERO would hereby like to invite all stakeholders to comment on ERO's proposals given in this Consultation Paper. Comments may be submitted until 24 April 2014 and should be sent either by email to ero.pricing-tariffs@ero-ks.org, with the subject line "ETR8 Comments", or by mail to the address of ERO: Rr. Dervish Rozhaja Nr.12, 10000 Prishtinë, Kosovë, marked for the attention of "Pricing and Tariffs Department".

At this stage, ERO has taken no decisions on the MAR which will be effective from April 1st. These are preliminary proposals. ERO invites all stakeholders to provide comments on ERO's views presented in this Paper.

2 Annual Updates and Regular Adjustments

In 2013 ERO conducted the Periodic Review Process (ETR7) during which it set the Maximum Allowed Revenues for the next five Relevant Years for the Regulated Generator (KEK), the Transmission System and Market Operator (KOSTT) and the Distribution System Operator (DSO). The Maximum Allowed Revenues of the Public Electricity Supplier (PES) were set for one year during the Input Values Review process as per the Rule on Public Electricity Supplier Pricing.

The Pricing Rules approved by ERO state that a Regular Adjustment process shall be undergone between each Relevant Year in order to calculate the permitted change in Maximum Allowed Revenues. This includes updating the loss allowance for forecast and actual energy flows, indexing allowed Operating and Maintenance costs, Depreciation Allowance and Allowed return to inflation and applying the pre-set efficiency factors for these licensees. The Regular Adjustment Process differs from a full-blown Periodic Review in which ERO would undergo a detailed review of the Allowed Operating and Maintenance Costs, allowed losses and efficiency factors and Allowed Capital Expenditure Programs. During Regular Adjustments, ERO only mechanically adjusts for differences between allowed and actual values of what has already been allowed during Periodic Reviews.

The Maximum Allowed Revenues of the PES are set for a one year period but the Input Values, which are used in calculating the MAR of the PES, are set during Input Values Reviews and are fixed for a prolonged period of time. The MAR of the PES is reset during each Annual Update to correct for differences between forecast and actual costs, under or over-recovery of MAR in the Relevant Year due to differences between forecast and actual billing and under or over-recovery of MAR due to differences between forecast and actual wholesale power costs and forecast and actual pass-

through costs, subject to any sharing between the PES and Regulated Customers of imbalance costs and export revenues.

During the last Periodic Review Process, ERO set the allowed level of Operating and Maintenance costs, allowed capital expenditures, Efficiency Factors, Economic Asset Lives, Profiling Factors[12] and Weighted Average Cost of Capital and the S-factor of the Regulated Generator, TSMO and DSO. Therefore the overall level of these allowances is not a subject of discussion during the Regular Adjustment process. As per the principles of the Pricing Rules, during the Regular Adjustment ERO will:

27. Index the Allowed Operating and Maintenance Costs of all licensees for the Efficiency Factor which is set during the Periodic Review process and for Annual Inflation which is set using the Harmonized Index of Consumer Prices (HICP) for All Items in the Eurozone;
28. Set the Availability Target of the Regulated Generator;
29. Set the Energy Charge and the Capacity Charge of the Regulated Generator;
30. Update the Allowed Lignite Supply Costs (LGSCt) of the Regulated Generator. This update includes the pre-set Operating and Maintenance Costs, Depreciation and Allowed Return of the Mine by following the same principles as for the Regulated Generator. The pre-set LGSCt will include the difference between actual and allowed lignite supply costs in the first Relevant Year of the Regulatory Period;
31. Update the Other Fuel Costs (OTFCt) of the Regulated Generator to include differences between allowed and actual costs in the first Relevant Year of the Regulatory Period;
32. Calculate the Wholesale Power Purchase Costs which include the cost of purchasing power from the Regulated Generators, Imports and the Retail Margin. These are updated to reflect the difference between allowed and actual power purchase costs in the previous Regulatory Period;
33. Set the Allowed Cost of Losses (LSSCt) for the Transmission System and Market Operator (KOSTT) and update these to include the difference between allowed and actual cost of losses for the previous Regulatory Period, which may have arisen due to changes in wholesale power costs or changes in the flows of electricity in the transmission system;
34. Update TSO MAR to reflect revenues generated through the Inter-TSO Compensation Mechanism;
35. Update TSO MAR to reflect the difference between Allowed and Actual Regulated Revenues in the previous Relevant Year (t-1);
36. Calculate the Renewable Energy Surcharge which will be used to finance the Renewable Energy Fund (REF) in order to pay the Feed-in Tariffs for RES Generators admitted to the Renewable Energy Sources (RES) Support Scheme;
37. Set the Transmission Use of System, Market Operator and System Operator Charges;
38. Set the Allowed Cost of Losses (LSSCt) for the Distribution System Operator (DSO) and update these to include the difference between allowed and actual cost of losses for the

[12] ERO has not set a Profiling Factor however these can only be set during Periodic Reviews.

previous Regulatory Period, which may have arisen due to changes in wholesale power costs or changes in the flows of electricity in the Distribution system.

39. Update DSO MAR to reflect the difference between Allowed and Actual Regulated Revenues in the previous Relevant Year (t-1);
40. Set the Distribution System Operator Charges;
41. Calculate the Allowed Retail Costs of the Public Electricity Supplier, which include the costs of operating and maintaining the PES activity, corporate costs, depreciation allowances and other reasonable costs of the PES;
42. Set the new PES MAR by including the difference between allowed and actual billing in the previous Regulatory Period;
43. Set the new Retail Tariffs;

3 The structure of this paper

This Consultation Paper is organized as follows:

- Section 4 lays out the Energy Balance assumed by ERO for the second Relevant Year of the Regulatory Period;
- Section 5 reviews KOSTT's MAR application and provides ERO's proposal for KOSTT's MAR;
- Section 6 provides a Summary of ERO's proposals;

4 Energy Balance

The Energy Balance is the key input of the tariff-setting process and as such has the greatest impact on the cost of providing Regulated Service to the electricity sector. The Energy Balance used in ERO's modeling work used inputs from the Energy Balance approved by the Ministry of Economic Development (MED) for 2014. The Energy Balance was constructed using a bottom-up approach where the forecast value of distribution sales was used as a start. The percentage of allowed losses was then used in order to calculate the level of energy required to enter the distribution system, net of distribution-embedded generation. Transmission level demand, losses and exports were added to the distribution consumption. The difference between the resulting value and domestic generation (KEK Generation and Ujmani) is the import volume required to balance production and demand.

4.1 Allowed Transmission Losses

The Allowed Level of Transmission Losses has been set at 1.8% as established during the Periodic Review Process.

4.2 Allowed Distribution Losses

Decision 399 does not make a distinction between distribution system losses and unbilled supplies in the application of the loss target. Applying the 3% loss target to all losses would imply requiring the DSO to reduce losses of unbilled supplies, in an area which it has no control over. ERO will therefore only apply the 3% target on the sum of technical and commercial losses.

In calculating the allowed distribution losses for the first Relevant Year of the Regulatory Period, ERO made this distinction by subtracting 3% points from the level of allowed distribution losses in ETR6. However in calculating the distribution losses for the first Relevant Year, ERO also changed the way it calculated distribution losses. Allowed technical and commercial losses under ETR6, set at 30.4%, were calculated as the ratio of the total technical and commercial losses to the total demand which included unbilled supplies:

$$\text{Allowed Losses} = 30.4\% = (TL+CL) / (TL + CL + US + DC)$$

Where

TL = Technical Losses

CL = Commercial Losses

US = Unbilled Supplies

DC = Distribution-level demand

The allowed technical and commercial losses under ETR6 were 1,399.2 GWh.

Under ETR7, ERO calculated the loss target by deducting 3 percentage points from the allowed level of 30.4% in ETR6. The resulting loss target was set at 27.4%. However, between ETR6 and ETR7, ERO also changed the way it calculated the loss target. The allowed losses calculated by ERO at 1,227 GWh equaled 27.4% but only after deducting unbilled supplies from the denominator:

$$\text{Allowed losses (ETR7)} = 27.4\% = (TL + CL) / (TL + CL + DC)$$

Had losses been calculated in the same manner as in ETR6 then the resulting effective level of losses allowed by ERO in the first Relevant Year of ETR7 would be 26.2%. The resulting rate of 1,227 GWh would have been 1,308 GWh had ERO used the same loss calculation methodology as under ETR6.

In a Clarification Letter sent to the licensees, ERO acknowledged the fact that they had changed the loss calculation methodology between ETR6 and ETR7 and that this had lead to an unintentional under-allowance of DSO losses under ETR7. ERO reviewed the loss target but continued to apply the approach that the target should be applied to technical and commercial losses only and that these should be calculated as the ratio of these losses to total distribution demand excluding unbilled supplies as this energy does not enter the distribution system. In order to achieve the same loss allowance of 1,308 GWh, ERO increased the allowed distribution losses to 26.6%. The loss target for the second Relevant Year was calculated by deducting three percentage points from this allowance, resulting in an allowed loss level of 25.6%.

Using the approved energy balance expected sales for 2014 and building up from it through the distribution losses, the value of energy entering the distribution system to supply regulated customers was calculated to be 4,474 GWh. Transmission-connected demand (Ferronikeli, Sharrcem and Trepca) energy exports, LOMAG consumption and transmission-level losses together sum up to 1490 GWh, making total energy consumption 5,965 GWh. KEK Generation, Ujmani and Distribution-embedded generation together are expected to produce 5,482 GWh. The difference between consumption and production will be met by imports of 483 GWh. The energy balance as calculated by ERO is summarized in the following table:

Table 5 2014 Energy Balance

Energy Balance		ETR7 Allowed	ETR7 CL	ETR7 Actual	ETR8 Allowed
KEK Generation		5,592.0	5,592.0	5,877.5	5,354.4
Kosovo A	GWh	1,848.0	1,848.0	2,014.0	1,758.4
Kosovo B	GWh	3,744.0	3,744.0	3,863.4	3,595.9
Other Transmission Connected Generation					
HPP Ujmani	GWh	80.0	80.0	99.4	82.0
Transmission-connected Demand		621.9	621.9	487.1	617.1
Ferronikeli consumption	GWh	527.0	527.0	403.2	526.7
Trepca	GWh	94.9	94.9	84.0	27.1
Sharrcem	GWh				63.3
Other Transmission - level consumption		295.0	295.0	287.1	283.1
Mine consumption	GWh	140.0	140.0	128.5	138.0
Kosovo A supply from Transmission	GWh	72.0	72.0	107.2	53.2
Kosovo B supply from Transmission	GWh	83.0	83.0	51.4	91.9
Transmission Losses	%	1.8%	1.8%	1.7%	1.8%
	GWh	111.2	112.6	110.3	106.9
Energy Entering Transmission System		6,177.0	6,254.5	6,491.9	5,940.1
Exports	GWh	492.0	492.0	857.0	484.0
Total Production	GWh	5,672.0	5,672.0	5,976.9	5,436.4
Imports	GWh	505.0	582.5	521.4	503.8
Energy Required to meet Transmission Load	GWh	1,520.1	1,521.5	1,741.6	1,491.1
Energy Required to meet Distribution Load	GWh	4,656.9	4,733.1	4,750.3	4,449.1
Distribution Generation					
Distribution-embedded generation	GWh	35.0	49.0	43.9	46.3
Wind Power j.s.c.	GWh				
Distribution Consumption	GWh	4,691.9	4,782.1	4,794.2	4,495.4
Distribution losses and unbilled energy					
Technical and commercial losses	%	27.4%	28.6%	32.5%	25.6%
	GWh	1,227.5	1,308.5	1,485.9	1,098.2
Unbilled supplies	%	4.52%	4.43%	4.55%	4.69%
	GWh	212.0	212.0	218.2	211.0
Total losses	GWh	1,439.5	1,520.5	1,704.1	1,309.2
Sales to final customers	GWh	3,252.4	3,261.6	3,090.1	3,186.2

5 Maximum Allowed Revenues of the Transmission, System and Market Operator of Kosovo (KOSTT)

The Maximum Allowed Revenues of the Kosovo Transmission, System and Market Operator (KOSTT) are set during Periodic Reviews for all of the Relevant Years of the Regulatory Period according to the KOSTT Pricing Rule. During Periodic Reviews, ERO sets the main components of KOSTT's MAR including the overall allowed Operating and Maintenance Costs, Depreciation and Allowed Return. These components are smoothed and profiled to avoid sudden differences in costs which would otherwise occur due to changes in the level of capital expenditure programs.

The permitted change in MAR is calculated during Regular Adjustments whence ERO indexes allowed costs for inflation and applies a pre-set efficiency factor to the allowed operating and maintenance costs. ERO also compensates KOSTT for differences between allowed and actual costs which are considered to be outside of KOSTT's control. One such cost is the cost of losses where ERO compensates KOSTT for the difference between allowed and actual cost that may have occurred due to the difference between forecast and actual electricity flow or due to a change in the unit cost of a unit lost.

On each Regular Adjustment, the MAR of KOSTT is reset according to the following formula (Schedule 1 Paragraph 2 of the KOSTT Pricing Rule):

$$MAR_t = OPMC_t + DEPC_t + RTNC_t + ASVC_t + LSSC_t + LICC_t - ITCR_t + KREV_t$$

1 *Where*

MAR_t	*is Maximum Allowed Revenues in Relevant Year t*
$OPMC_t$	*is allowed operating and maintenance costs in Relevant Year t*
DEPCt	*is allowed depreciation in Relevant Year t*
RTNCt	*is allowed return on capital in Relevant Year t*
ASVCt	*is allowed cost of ancillary services in Relevant Year t*
LSSCt	*is allowed cost of losses in Relevant Year t*
LICCt	*is the Licence Fee in Relevant Year t*
ITCRt	*is net revenues to the TSO/MO under the Inter-TSO Compensation Mechanism in Relevant Year t*
KREVt	*is the revenue correction factor in Relevant Year t*

The calculation of each of these MAR components is provided below.

5.1 Allowed Operating and Maintenance costs (OPMCt)

Allowed Operating and Maintenance costs are set during each Regular Adjustment through the following formula (Schedule 1 paragraph 2.1 of the TSMO Pricing Rule):

$$OPMC_t = OPMC_{t-1} * (1 + CPI_{t-1}) * (1 – E_t) * (1 – P_t)$$

Where

$OPMC_t$	*is allowed operating and maintenance costs in Relevant Year t*
$OPMC_{t-1}$	*is allowed operating and maintenance costs in Relevant Year t-1, except for Relevant Year 1 when a value determined by the Regulator at the most recent Periodic Review shall be used*
CPIt-1	*is the actual value of inflation in Relevant Year t-1, measured using the "Harmonised Indices of Consumer Prices (HICPs) – All Items, for the Eurozone" published by Eurostat, or any other measure of inflation that the Regulator determines is a better measure of the change in operating and maintenance costs over time and is allowed at a Periodic Review*
Et	*is the Efficiency Factor in Relevant Year t, which is set at Periodic Reviews*
Pt	*is the Profiling Factor in Relevant Year t, which is set at Periodic Reviews*

The Allowed Operating and Maintenance Costs for the second relevant year are calculated as the sum of the figure allowed by ERO in the Summary Model multiplied by the rate of inflation plus allowed operating and maintenance costs for the second Relevant Year. If this calculation is done as in the formula specified in the Pricing Rule then the TSMO would not be able to recover the allowed OPMC costs because the formula assumes that the OPMC allowance is profiled over the Regulatory Period. Since ERO has not profiled OPMCt in the Periodic Review OPMCt has to be calculated as the sum of the product of the inflation rate with the previously allowed OPMCt (in Relevant Year 1) and the OPMCt allowance for Relevant Year 2. ERO has continued to apply the efficiency factor set at Periodic Reviews of 4% per annum and an inflation rate of 0.7% calculated as the Harmonized Index of Consumer Prices for all items in the Eurozone.

ERO has therefore calculated the OPMCt allowance for the Second Relvant Year of KOSTT with the following formula:

$$OPMC = OPMC_{t-1} *(CPI_{t-1}) * (1 – E_t) + OPMC_t$$

The allowed level of OPMCt is €7.1 million.

5.2 Allowed Depreciation (DEPCt)

The permitted change in Allowed Depreciation is set during each Regular Adjustment through the following formula (Schedule 1 paragraph 2.2 of the TSMO Pricing Rule):

$$DEPC_t = DEPC_{t-1} * (1 + CPI_{t-1}) * (1 - P_t)$$

Where

$DEPC_t$	*is other allowed depreciation in Relevant Year t, which is smoothed such that it is constant over the Regulatory Period*
$DEPC_{t-1}$	*is allowed depreciation in Relevant Year t-1, except for Relevant Year 1 when a value determined by the Regulator at the most recent Periodic Review shall be used, which is smoothed such that it is constant over the Regulatory Period*
CPIt-1	*is the actual value of inflation in Relevant Year t-1, measured using the "Harmonised Indices of Consumer Prices (HICPs) – All Items, for the Eurozone" published by Eurostat*
Pt	*is the Profiling Factor in Relevant Year t, which is set at Periodic Reviews*

The formula, as set in the Pricing Rule, assumes that the depreciation allowances are smoothed and profiled over the regulatory period. Since no smoothing was applied during the Periodic Review process, applying the formula strictly as in the Pricing Rule would not match the intended DEPCt allowance for the second Relevant Year. ERO has therefore adopted the following formula:

$$DEPC = DEPC_{t-1} * (CPI_{t-1}) + DEPC_t$$

The allowed Depreciation costs for Relevant Year 2 are set to €6.6 million.

5.3 Allowed Return (RTNCt)

The indexation of the Allowed Return component to inflation is calculated with the following formula (Schedule 1 paragraph 2.3 of the TSMO Pricing Rule):

$$RTNC_t = RTNC_{t-1} * (1 + CPI_{t-1}) * (1 - P_t)$$

Where

$RTNC_t$	*is allowed return on capital in Relevant Year t, which is smoothed such that it is constant over the Regulatory Period*
$RTNC_{t-1}$	*is allowed return on capital in Relevant Year t-1, except for Relevant Year 1 when a value determined by the Regulator at the most recent Periodic Review shall be used, which is smoothed such that it is constant over the Regulatory Period*

CPIt-1	*is the actual value of inflation in Relevant Year t-1, measured using the "Harmonised Indices of Consumer Prices (HICPs) – All Items, for the Eurozone" published by Eurostat*
P_t	*is the Profiling Factor in Relevant Year t, which is set at Periodic Reviews*

As in the OPMCt and DEPCt components calculation, ERO had not profiled or smoothed the Allowed Return during the Periodic Review. The formula above assumes that the allowed return component has been profiled and therefore applying it strictly leads to a situation where the TSMO does not recover the full allowed return. This component has therefore been calculated by the following formula:

$$RTNC = RTNC_{t-1} * (CPI_{t-1}) + (RTNC_t)$$

The allowed return of the TSMO for the second Relevant Year has been set at €3.3 million.

5.4 Allowed Cost of Ancillary Services (ASVCt)

According to the KOSTT application, Ancillary Services fees are expected to be effective from this year due to the agreement which is expected to be signed with Serbia. KOSTT expects this figure to be around the same value allowed for previous years of €1.6 million. In a meeting held on 26 March 2014, KOSTT stated that the agreement had not been signed yet and they did not know when the agreement would be signed.

Due to lack of information about the precise cost of these services and the associated transit revenues which KOSTT is expected to receive after signing the agreement, ERO will not allow costs of Ancillary Services for the second Relevant Year at this stage. ERO will review any differences between allowed and actual costs in the next Regular Adjustment.

5.5 Allowed Cost of Losses (LSSCt)

Allowed Cost of Losses for the TSO have been calculated by using the allowed loss target under ETR7 with the energy flows before the clarification letter (DSO losses 27.4%, TSO loses 1.8%) by using the following formula (Schedule 1 paragraph 2.4 fo the TSMO Pricing Rule):

$$LSSC_t = LSSA_t * REUE_t * WHEA_t + (LSSCa_{t-1} – LSSCf_{t-1}) * (1+ I_t) + (LSSCa_{t-1} – LSAC_{t-1})*LSSF_t$$

Where

$LSSC_t$	*is allowed cost of losses in Relevant Year t*
$LSSA_t$	*is the Loss Allowance, which is a percentage of energy entering the Transmission System, in Relevant Year t*
REUEt	*is the energy units (in MWh) entering the Transmission System in Relevant Year t*

WHEAt	*is the average wholesale energy cost (in €/MWh) as determined using the allowed wholesale energy cost for the PES in Relevant Year t*
LSSCat-1	*is the actual allowed cost of losses in Relevant Year t-1 (calculated using the Loss Allowance)*
LSSCft-1	*is the forecast cost of losses in Relevant Year t-1 (calculated using the Loss Allowance)*
It	*is the interest rate for the Relevant Year t calculated based on EURIBOR plus S%, where S is a value to be determined by the Regulator at Periodic Reviews and which reflects the premium payable by the licensee for short-term loans above the EURIBOR rate*
LSACt-1	*is cost of losses actually incurred by the TSO in purchasing energy from the PES as compensation for energy lost on the Transmission System in Relevant Year t-1 (not calculated using the Loss Allowance)*
LSSFt	*is the Loss Sharing Factor in Relevant Year t, which is set at Periodic Review.*

The interest rate used to calculate the compensation between actual and allowed costs in the previous Relevant Year has been calculated using the S-premium set by ERO during the Periodic Review (15.0%) plus the current one year EURIBOR rate (0.58%). The resulting interest rate used for adjustments has therefore been set to 15.58%.

The first component of the LSSCt formula (LSSAt*REUEt*WHEAt) has been calculated as the product of the allowed level of losses (1.8%) multiplied with the units of energy entering the distribution system (5,940.1 GWh) and the forecast Weighted Average Power Purchase Costs of 27.0 €/MWh. The actual cost of losses (LSSCat-1) using the loss percentage allowed by ERO and the WHEA allowed by ERO €3.5 million whereas the actual value allowed by ERO (LSSCft-1) in Relevant Year 1 MAR is €3.4 million. The difference between LSSCat-1 and LSSCft-1 has been returned to KOSTT with interest. In resetting the allowed losses for the second Relevant Year (LSSCt) ERO also added the difference between LSSCat-1 and LSACt-1. The final loss allowance of the TSO for the second Relevant Year is, therefore, €3.2 million.

5.6 Allowed Cost of Licence Fees (LICCt)

The licence fee allowance has been set to zero in line with expected licence fee costs for the second Relevant Year.

5.7 Allowed Revenues for the Inter-TSO Compensation Mechanism (ITCRt)

No revenues have been deducted for the Inter-TSO Compensation Mechanism (ICT) in line with expected revenues under this mechanism for the second Relevant Year.

5.8 KREVt

The difference between the Maximum Allowed Revenues (MAR) allowed by ERO for the second Relevant Year and the Actual Regulated Revenues collected by KOSTT during the same period was calculated according to the following formula (Schedule 2 paragraph 2.5 of the TSO/MO Pricing Rule):

$$KREV_t = (MAR_{t-1} – ARR_{t-1}) * (1+ I_t)$$

Where

ARRt-1	*is the Actual Regulated Revenues in Relevant Year t-1*
MARt-1	*is Maximum Allowed Revenues as determined in Relevant Year t-1*
It	*is the interest rate for the Relevant Year t calculated based on EURIBOR plus S%, where S is a value to be determined by the Regulator at Periodic Reviews and which reflects the premium payable by the licensee for short-term loans above the EURIBOR rate*

The difference between the MAR allowed by ERO of €17.5 million and the ARR collected by KOSTT of €17.7 million was deducted from KOSTT MAR with interest.

6 KOSTT MAR Summary

The overall level of KOSTT MAR allowed for the second Relevant Year is €20.1 million which is €2.6 million more than the MAR allowed for the first Relevant Year of the Regulatory Period.

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ENERGY REGULATORY OFFICE
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Consultation Paper

The Eighth Electricity Tariff Review

ETR8 (2014-2015)

DSO MAR Calculation (Relevant Year 2)

DISCLAIMER

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April 2014

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1 Introduction

The Energy Regulatory Office is currently in the process of conducting the Eighth Electricity Tariff Review for the Public Electricity Supplier (PES) and the Regular Adjustment for the Second Relevant Year of the ETR7 Tariff Review for the Regulated Generator (KEK), Transmission, System and Market Operator (KOSTT) and the Distribution System Operator (DSO). This is the first time ERO undergoes a Regular Adjustment process with the newly adopted Pricing Rules which allow for multi-year tariff controls.

This Report presents ERO's views on the Maximum Allowed Revenues of the Distribution System Operator (DSO) for the second Relevant Year. ERO would hereby like to invite all stakeholders to comment on ERO's proposals given in this Consultation Paper. Comments may be submitted until 24 April 2014 and should be sent either by email to ero.pricing-tariffs@ero-ks.org, with the subject line "ETR8 Comments", or by mail to the address of ERO: Rr. Dervish Rozhaja Nr.12, 10000 Prishtinë, Kosovë, marked for the attention of "Pricing and Tariffs Department".

At this stage, ERO has taken no decisions on the MAR which will be effective from April 1st. These are preliminary proposals. ERO invites all stakeholders to provide comments on ERO's views presented in this Paper.

2 Annual Updates and Regular Adjustments

In 2013 ERO conducted the Periodic Review Process (ETR7) during which it set the Maximum Allowed Revenues for the next five Relevant Years for the Regulated Generator (KEK), the Transmission System and Market Operator (KOSTT) and the Distribution System Operator (DSO). The Maximum Allowed Revenues of the Public Electricity Supplier (PES) were set for one year during the Input Values Review process as per the Rule on Public Electricity Supplier Pricing.

The Pricing Rules approved by ERO state that a Regular Adjustment process shall be undergone between each Relevant Year in order to calculate the permitted change in Maximum Allowed Revenues. This includes updating the loss allowance for forecast and actual energy flows, indexing allowed Operating and Maintenance costs, Depreciation Allowance and Allowed return to inflation and applying the pre-set efficiency factors for these licensees. The Regular Adjustment Process differs from a full-blown Periodic Review in which ERO would undergo a detailed review of the Allowed Operating and Maintenance Costs, allowed losses and efficiency factors and Allowed Capital Expenditure Programs. During Regular Adjustments, ERO only mechanically adjusts for differences between allowed and actual values of what has already been allowed during Periodic Reviews.

The Maximum Allowed Revenues of the PES are set for a one year period but the Input Values, which are used in calculating the MAR of the PES, are set during Input Values Reviews and are fixed for a prolonged period of time. The MAR of the PES is reset during each Annual Update to correct for differences between forecast and actual costs, under or over-recovery of MAR in the Relevant Year due to differences between forecast and actual billing and under or over-recovery of MAR due to differences between forecast and actual wholesale power costs and forecast and actual pass-

through costs, subject to any sharing between the PES and Regulated Customers of imbalance costs and export revenues.

During the last Periodic Review Process, ERO set the allowed level of Operating and Maintenance costs, allowed capital expenditures, Efficiency Factors, Economic Asset Lives, Profiling Factors[13] and Weighted Average Cost of Capital and the S-factor of the Regulated Generator, TSMO and DSO. Therefore the overall level of these allowances is not a subject of discussion during the Regular Adjustment process. As per the principles of the Pricing Rules, during the Regular Adjustment ERO will:

44. Index the Allowed Operating and Maintenance Costs of all licensees for the Efficiency Factor which is set during the Periodic Review process and for Annual Inflation which is set using the Harmonized Index of Consumer Prices (HICP) for All Items in the Eurozone;
45. Set the Availability Target of the Regulated Generator;
46. Set the Energy Charge and the Capacity Charge of the Regulated Generator;
47. Update the Allowed Lignite Supply Costs (LGSCt) of the Regulated Generator. This update includes the pre-set Operating and Maintenance Costs, Depreciation and Allowed Return of the Mine by following the same principles as for the Regulated Generator. The pre-set LGSCt will include the difference between actual and allowed lignite supply costs in the first Relevant Year of the Regulatory Period;
48. Update the Other Fuel Costs (OTFCt) of the Regulated Generator to include differences between allowed and actual costs in the first Relevant Year of the Regulatory Period;
49. Calculate the Wholesale Power Purchase Costs which include the cost of purchasing power from the Regulated Generators, Imports and the Retail Margin. These are updated to reflect the difference between allowed and actual power purchase costs in the previous Regulatory Period;
50. Set the Allowed Cost of Losses (LSSCt) for the Transmission System and Market Operator (KOSTT) and update these to include the difference between allowed and actual cost of losses for the previous Regulatory Period, which may have arisen due to changes in wholesale power costs or changes in the flows of electricity in the transmission system;
51. Update TSO MAR to reflect revenues generated through the Inter-TSO Compensation Mechanism;
52. Update TSO MAR to reflect the difference between Allowed and Actual Regulated Revenues in the previous Relevant Year (t-1);
53. Calculate the Renewable Energy Surcharge which will be used to finance the Renewable Energy Fund (REF) in order to pay the Feed-in Tariffs for RES Generators admitted to the Renewable Energy Sources (RES) Support Scheme;
54. Set the Transmission Use of System, Market Operator and System Operator Charges;
55. Set the Allowed Cost of Losses (LSSCt) for the Distribution System Operator (DSO) and update these to include the difference between allowed and actual cost of losses for the

[13] ERO has not set a Profiling Factor however these can only be set during Periodic Reviews.

previous Regulatory Period, which may have arisen due to changes in wholesale power costs or changes in the flows of electricity in the Distribution system.

56. Update DSO MAR to reflect the difference between Allowed and Actual Regulated Revenues in the previous Relevant Year (t-1);
57. Set the Distribution System Operator Charges;
58. Calculate the Allowed Retail Costs of the Public Electricity Supplier, which include the costs of operating and maintaining the PES activity, corporate costs, depreciation allowances and other reasonable costs of the PES;
59. Set the new PES MAR by including the difference between allowed and actual billing in the previous Regulatory Period;
60. Set the new Retail Tariffs;

3 The structure of this paper

This Consultation Paper is organized as follows:

- Section 4 lays out the Energy Balance assumed by ERO for the second Relevant Year of the Regulatory Period;
- Section 5 reviews the DSO's MAR Application and provides ERO's proposals;
- Section 6 provides a summary of the DSO MAR allowed by ERO;

4 Energy Balance

The Energy Balance is the key input of the tariff-setting process and as such has the greatest impact on the cost of providing Regulated Service to the electricity sector. The Energy Balance used in ERO's modeling work used inputs from the Energy Balance approved by the Ministry of Economic Development (MED) for 2014. The Energy Balance was constructed using a bottom-up approach where the forecast value of distribution sales was used as a start. The percentage of allowed losses was then used in order to calculate the level of energy required to enter the distribution system, net of distribution-embedded generation. Transmission level demand, losses and exports were added to the distribution consumption. The difference between the resulting value and domestic generation (KEK Generation and Ujmani) is the import volume required to balance production and demand.

4.1 Allowed Transmission Losses

The Allowed Level of Transmission Losses has been set at 1.8% as established during the Periodic Review Process.

4.2 Allowed Distribution Losses[14]

On 6 September 2012, the Board of the Energy Regulatory Office approved the Regulatory Parameters (the Decision) which ERO should use as input values setting the Maximum Allowed Revenues for the next Regulatory Period (2013-2017, including the first transitional year in the ETR6 Tariff Review)[15]. The Decision set - among critical factors such as the WACC, Bad Debt Allowance and Efficiency Factors – the level of Distribution Losses (for the next 1+5 Relevant Years of the forthcoming Regulatory Period) which the DSO would be allowed to recover from Regulated Tariffs. The Decision stated that the allowed level of losses would start from the actual losses in 2011 and be reduced by 3 percentage points in each of the first three years followed by 2.5 percentage points in the subsequent final three years.

[14] The version included in this Report is the Default version without prejudice to ERO's view on changing the Losses Decision.

[15] Decision 399 of the Board of the Energy Regulatory Office available on ERO's web-site (http://ero-ks.org/Vendimet/English/2012/D_399_2012.pdf)

In their tariff submission, KEDS argue that the level of distribution losses which should be recovered in ETR8 tariffs should be reset to start from the actual level of losses achieved by KEK in the first transitional year less three percentage points. KEDS make their argument on the grounds that KEK did not achieve the full three percentage point reduction, as they were supposed to, and therefore KEDS will have to reduce losses by the three percentage points, as per the decision of ERO, plus the difference between ERO's target (3% points) and what KEK actually achieved in the previous year (1.1% points). KEDS would therefore have to reduce the loss target by 4.9% points for the first year of control rather than 3% as required by ERO.

ERO has not set a final position on the loss reset issue. The value of the targets has a direct impact on the level of tariffs and ERO is therefore required to consult all stakeholders prior to taking a position on the matter[16]. Resetting the loss target may lead to significant increased costs of electricity supplied to customers as any additional energy that would have to enter the distribution system would be charged at the import price. The Decision was one of the main requests of the Transaction Advisors to the Government of Kosovo for the KEDS Privatization Transaction and it was meant to provide predictability of the level of tariffs and a basis upon which financial bids would be offered. The bidders may have therefore assumed the risk of the incumbent utility not being able to reach the target and may have factored this into the bidding price. Changing the Decision may be interpreted as changing the terms upon which a competitive bidding process was carried out and may lead to complaints of the losing party thereby risking the transaction process. ERO therefore needs to consult relevant stakeholders, including the KEDS Post Privatization Unit, to obtain their opinion on these matters. Until this consultation process is conducted, ERO will continue to apply Decision 399 and has set the loss target by deducting three percentage points from the value applied in the previous Relevant Year, as explained in the section below.

4.2.1 Setting the loss target

Decision 399 does not make a distinction between distribution system losses and unbilled supplies in the application of the loss target. Applying the 3% loss target to all losses would imply requiring the DSO to reduce losses of unbilled supplies, in an area which it has no control over. ERO will therefore only apply the 3% target on the sum of technical and commercial losses.

In calculating the allowed distribution losses for the first Relevant Year of the Regulatory Period, ERO made this distinction by subtracting 3% points from the level of allowed distribution losses in ETR6. However in calculating the distribution losses for the first Relevant Year, ERO also changed the way it calculated distribution losses. Allowed technical and commercial losses under ETR6, set at 30.4%, were calculated as the ratio of the total technical and commercial losses to the total demand which included unbilled supplies:

$$\text{Allowed Losses} = 30.4\% = (TL+CL) / (TL + CL + US + DC)$$

Where

[16] Article 26 paragraph 1 of the Law on Energy Regulator requires that ERO undergoes a public consultation for issues with a significant impact on the electricity market including all issues related to tariffs.

TL = Technical Losses

CL = Commercial Losses

US = Unbilled Supplies

DC = Distribution-level demand

The allowed technical and commercial losses under ETR6 were 1,399.2 GWh.

Under ETR7, ERO calculated the loss target by deducting 3 percentage points from the allowed level of 30.4% in ETR6. The resulting loss target was set at 27.4%. However, between ETR6 and ETR7, ERO also changed the way it calculated the loss target. The allowed losses calculated by ERO at 1,227 GWh equaled 27.4% but only after deducting unbilled supplies from the denominator:

$$\text{Allowed losses (ETR7)} = 27.4\% = (TL + CL) / (TL + CL + DC)$$

Had losses been calculated in the same manner as in ETR6 then the resulting effective level of losses allowed by ERO in the first Relevant Year of ETR7 would be 26.2%. The resulting rate of 1,227 GWh would have been 1,308 GWh had ERO used the same loss calculation methodology as under ETR6.

In a Clarification Letter sent to the licensees, ERO acknowledged the fact that they had changed the loss calculation methodology between ETR6 and ETR7 and that this had lead to an unintentional under-allowance of DSO losses under ETR7. ERO reviewed the loss target but continued to apply the approach that the target should be applied to technical and commercial losses only and that these should be calculated as the ratio of these losses to total distribution demand excluding unbilled supplies as this energy does not enter the distribution system. In order to achieve the same loss allowance of 1,308 GWh, ERO increased the allowed distribution losses to 26.6%. The loss target for the second Relevant Year was calculated by deducting three percentage points from this allowance, resulting in an allowed loss level of 25.6%.

Using the approved energy balance expected sales for 2014 and building up from it through the distribution losses, the value of energy entering the distribution system to supply regulated customers was calculated to be 4,474 GWh. Transmission-connected demand (Ferronikeli, Sharrcem and Trepca) energy exports, LOMAG consumption and transmission-level losses together sum up to 1490 GWh, making total energy consumption 5,965 GWh. KEK Generation, Ujmani and Distribution-embedded generation together are expected to produce 5,482 GWh. The difference between consumption and production will be met by imports of 483 GWh. The energy balance as calculated by ERO is summarized in the following table:

Table 6 2014 Energy Balance

Energy Balance		ETR7 Allowed	ETR7 CL	ETR7 Actual	ETR8 Allowed
KEK Generation		5,592.0	5,592.0	5,877.5	5,354.4
Kosovo A	GWh	1,848.0	1,848.0	2,014.0	1,758.4
Kosovo B	GWh	3,744.0	3,744.0	3,863.4	3,595.9
Other Transmission Connected Generation					
HPP Ujmani	GWh	80.0	80.0	99.4	82.0
Transmission-connected Demand		621.9	621.9	487.1	617.1
Ferronikeli consumption	GWh	527.0	527.0	403.2	526.7
Trepca	GWh	94.9	94.9	84.0	27.1
Sharrcem	GWh				63.3
Other Transmission - level consumption		295.0	295.0	287.1	283.1
Mine consumption	GWh	140.0	140.0	128.5	138.0
Kosovo A supply from Transmission	GWh	72.0	72.0	107.2	53.2
Kosovo B supply from Transmission	GWh	83.0	83.0	51.4	91.9
Transmission Losses	%	1.8%	1.8%	1.7%	1.8%
	GWh	111.2	112.6	110.3	106.9
Energy Entering Transmission System		6,177.0	6,254.5	6,491.9	5,940.1
Exports	GWh	492.0	492.0	857.0	484.0
Total Production	GWh	5,672.0	5,672.0	5,976.9	5,436.4
Imports	GWh	505.0	582.5	521.4	503.8
Energy Required to meet Transmission Load	GWh	1,520.1	1,521.5	1,741.6	1,491.1
Energy Required to meet Distribution Load	GWh	4,656.9	4,733.1	4,750.3	4,449.1
Distribution Generation					
Distribution-embedded generation	GWh	35.0	49.0	43.9	46.3
Wind Power j.s.c.	GWh				
Distribution Consumption	GWh	4,691.9	4,782.1	4,794.2	4,495.4
Distribution losses and unbilled energy					
Technical and commercial losses	%	27.4%	28.6%	32.5%	25.6%
	GWh	1,227.5	1,308.5	1,485.9	1,098.2
Unbilled supplies	%	4.52%	4.43%	4.55%	4.69%
	GWh	212.0	212.0	218.2	211.0
Total losses	GWh	1,439.5	1,520.5	1,704.1	1,309.2
Sales to final customers	GWh	3,252.4	3,261.6	3,090.1	3,186.2

5 Maximum Allowed Revenues of the Distribution System Operator (DSO)

The Maximum Allowed Revenues of the Distribution Systme Operator (DSO) is set during Periodic Reviews for all of the Relevant Years of the Regulatory Period according to the DSO Pricing Rule. During Periodic Reviews, ERO sets the main components of the DSO MAR including the overall allowed Operating and Maintenance Costs, Depreciation and Allowed Return. These components are smoothed and profiled to avoid sudden differences in costs which would otherwise occur due to changes in the level of capital expenditure programs.

The permitted change in MAR is calculated during Regular Adjustments whence ERO indexes allowed costs for inflation and applies a pre-set efficiency factor to the allowed operating and maintenance costs. ERO also compensates the DSO for differences between allowed and actual costs which are considered to be outside of the DSO's control. One such cost is the cost of losses where ERO compensates DSO for the difference between allowed and actual cost that may have occurred due to the difference between forecast and actual electricity flow or due to a change in the unit cost of a unit lost.

On each Regular Adjustment, the MAR of the DSO is reset according to the following formula (Schedule 1 Paragraph 2 of the DSO Pricing Rule):

$$MAR_t = OPMC_t + DEPC_t + RTNC_t + LSSC_t + LICC_t + KREV_t$$

2 *Where*

MAR_t	*is Maximum Allowed Revenues in Relevant Year t*
$OPMC_t$	*is allowed operating and maintenance costs in Relevant Year t*
$DEPC_t$	*is allowed depreciation in Relevant Year t*
$RTNC_t$	*is allowed return on capital in Relevant Year t*
$LSSC_t$	*is allowed cost of losses in Relevant Year t*
$LICC_t$	*is the Licence Fee in Relevant Year t*
$KREV_t$	*is the revenue correction factor in Relevant Year t*

The calculation of each of these MAR components is provided below.

5.1 Allowed Operating and Maintenance costs (OPMCt)

Allowed Operating and Maintenance costs are set during each Regular Adjustment through the following formula (Schedule 1 paragraph 2.1 of the DSO Pricing Rule):

$$OPMC_t = OPMC_{t-1} * (1 + CPI_{t-1}) * (1 – E_t) * (1 – P_t)$$

Where

$OPMC_t$	*is allowed operating and maintenance costs in Relevant Year t*
$OPMC_{t-1}$	*is allowed operating and maintenance costs in Relevant Year t-1, except for Relevant Year 1 when a value determined by the Regulator at the most recent Periodic Review shall be used*
CPIt-1	*is the actual value of inflation in Relevant Year t-1, measured using the "Harmonised Indices of Consumer Prices (HICPs) – All Items, for the Eurozone" published by Eurostat, or any other measure of inflation that the Regulator determines is a better measure of the change in operating and maintenance costs over time and is allowed at a Periodic Review*
Et	*is the Efficiency Factor in Relevant Year t, which is set at Periodic Reviews*
Pt	*is the Profiling Factor in Relevant Year t, which is set at Periodic Reviews*

The Allowed Operating and Maintenance Costs for the second relevant year are calculated as the sum of the figure allowed by ERO in the Summary Model multiplied by the rate of inflation plus allowed operating and maintenance costs for the second Relevant Year. If this calculation is done as in the formula specified in the Pricing Rule then the DSO would not be able to recover the allowed OPMC costs because the formula assumes that the OPMC allowance is profiled over the Regulatory Period. Since ERO has not profiled OPMCt in the Periodic Review OPMCt has to be calculated as the sum of the product of the inflation rate with the previously allowed OPMCt (in Relevant Year 1) and the OPMCt allowance for Relevant Year 2. ERO has continued to apply the efficiency factor set at Periodic Reviews of 4% per annum and an inflation rate of 0.7% calculated as the Harmonized Index of Consumer Prices for all items in the Eurozone.

ERO has therefore calculated the OPMCt allowance for the Second Relvant Year of KOSTT with the following formula:

$$OPMC = OPMC_{t-1} *(CPI_{t-1}) * (1 – E_t) + OPMC_t$$

The allowed OPMCt costs have been adjusted upwards in order to reflect increases in costs which were not foreseen during the Periodic Review process and which resulted due to the KEDS unbundling process. After ERO's MAR Decision, actual OPMCt went up by the costs of health

insurance for the employees (€0.2 million), costs of insuring the assets (€0.8 million) and HQ reallocation costs (€1.1 million). These costs have been added to the DSO MAR.

The final allowed level of OPMCt is, therefore, €18.6 million.

5.2 Allowed Depreciation (DEPCt)

The permitted change in Allowed Depreciation is set during each Regular Adjustment through the following formula (Schedule 1 paragraph 2.2 of the DSO Pricing Rule):

$$DEPC_t = DEPC_{t-1} * (1 + CPI_{t-1}) * (1 - P_t)$$

Where

$DEPC_t$	*is other allowed depreciation in Relevant Year t, which is smoothed such that it is constant over the Regulatory Period*
$DEPC_{t-1}$	*is allowed depreciation in Relevant Year t-1, except for Relevant Year 1 when a value determined by the Regulator at the most recent Periodic Review shall be used, which is smoothed such that it is constant over the Regulatory Period*
CPIt-1	*is the actual value of inflation in Relevant Year t-1, measured using the "Harmonised Indices of Consumer Prices (HICPs) – All Items, for the Eurozone" published by Eurostat*
Pt	*is the Profiling Factor in Relevant Year t, which is set at Periodic Reviews*

The formula, as set in the Pricing Rule, assumes that the depreciation allowances are smoothed and profiled over the regulatory period. Since no smoothing was applied during the Periodic Review process, applying the formula strictly as in the Pricing Rule would not match the intended DEPCt allowance for the second Relevant Year. ERO has therefore adopted the following formula:

$$DEPC = DEPC_{t-1} * (CPI_{t-1}) + DEPC_t$$

The allowed Depreciation costs for Relevant Year 2 are set to €7.3 million.

5.3 Allowed Return (RTNCt)

The indexation of the Allowed Return component to inflation is calculated with the following formula (Schedule 1 paragraph 2.3 of the DSO Pricing Rule):

$$RTNC_t = RTNC_{t-1} * (1 + CPI_{t-1}) * (1 - P_t)$$

Where

$RTNC_t$	*is allowed return on capital in Relevant Year t, which is smoothed such that it is constant over the Regulatory Period*

$RTNC_{t-1}$	*is allowed return on capital in Relevant Year t-1, except for Relevant Year 1 when a value determined by the Regulator at the most recent Periodic Review shall be used, which is smoothed such that it is constant over the Regulatory Period*
CPIt-1	*is the actual value of inflation in Relevant Year t-1, measured using the "Harmonised Indices of Consumer Prices (HICPs) – All Items, for the Eurozone" published by Eurostat*
P_t	*is the Profiling Factor in Relevant Year t, which is set at Periodic Reviews*

As in the OPMCt and DEPCt components calculation, ERO had not profiled or smoothed the Allowed Return during the Periodic Review. The formula above assumes that the allowed return component has been profiled and therefore applying it strictly leads to a situation where the DSO does not recover the full allowed return. This component has therefore been calculated by the following formula:

$$RTNC = RTNC_{t-1} * (CPI_{t-1}) + (RTNC_t)$$

The allowed return of the DSO for the second Relevant Year has been set at €10.5 million.

5.4 Allowed Cost of Losses (LSSCt)

Allowed Cost of Losses for the DSO have been calculated by using the allowed loss target under ETR7 with the energy flows before the clarification letter (DSO losses 27.4%,) by using the following formula (Schedule 1 paragraph 2.4 fo the DSO Pricing Rule):

$$LSSC_t = LSSA_t * REUE_t * WHEA_t + (LSSCa_{t-1} – LSSCf_{t-1}) * (1+ I_t) + (LSSCa_{t-1} – LSAC_{t-1})*LSSF_t$$

Where

$LSSC_t$	*is allowed cost of losses in Relevant Year t*
$LSSA_t$	*is the Loss Allowance, which is a percentage of energy entering the Distribution System, in Relevant Year t*
$REUE_t$	*is the energy units (in MWh) entering the Distribution System in Relevant Year t*
$WHEA_t$	*is the average wholesale energy cost (in €/MWh) as determined using the allowed wholesale energy cost for the PES in Relevant Year t*
$LSSCa_{t-1}$	*is the actual allowed cost of losses in Relevant Year t-1 (calculated using the Loss Allowance)*

$LSSCf_{t-1}$	*is the forecast cost of losses in Relevant Year t-1 (calculated using the Loss Allowance)*
I_t	*is the interest rate for the Relevant Year t calculated based on EURIBOR plus S%, where S is a value to be determined by the Regulator at Periodic Reviews and which reflects the premium payable by the licensee for short-term loans above the EURIBOR rate*
$LSAC_{t-1}$	*is cost of losses actually incurred by the DSO in purchasing energy from the PES as compensation for energy lost on the Distribution System in Relevant Year t-1 (not calculated using the Loss Allowance)*
$LSSF_t$	*is the Loss Sharing Factor in Relevant Year t, which is set at Periodic Reviews*

The interest rate used to calculate the compensation between actual and allowed costs in the previous Relevant Year has been calculated using the S-premium set by ERO during the Periodic Review (15.0%) plus the current one year EURIBOR rate (0.582%). The resulting interest rate used for adjustments has therefore been set to 15.58%.

The first component of the LSSCt formula (LSSAt*REUEt*WHEAt) has been calculated as the product of the allowed level of losses (25.6%) multiplied with the units of energy entering the distribution system (4,284.4 GWh) and the forecast Weighted Average Power Purchase Costs of 27.0 €/MWh. The actual cost of losses (LSSCat-1) using the loss percentage allowed by ERO and the WHEA allowed by ERO €37.9 million whereas the actual value allowed by ERO (LSSCft-1) in Relevant Year 1 MAR is €37.1 million. The difference between LSSCat-1 and LSSCft-1 has been returned to KEDS with interest. In resetting the allowed losses for the second Relevant Year (LSSCt) ERO also subtracted the difference between LSSCat-1 and LSACt-1. The final loss allowance of the DSO for the second Relevant Year is, therefore, €23.5 million.

5.5 Adjustments

ERO has adjusted the DSO MAR to reflect the difference between actual and forecasted costs for the first Relevant Year. As such HQ Allocation costs (€1.1 million), personnel health insurance costs (€0.2 million) and asset insurance costs (€0.5 million) have been returned to the DSO with interest. Unregulated revenues for services provided to third parties (€1.2 million) have been deducted with interest.

5.6 KREVt

The KREV of the DSO has been calculated as the difference between the Maximum Allowed Revenues and the Actual Regulated Revenues as specified in paragraph 2.5 of Schedule 1 of the DSO Pricing Rule:

$$KREV_t = (MAR_{t-1} - ARR_{t-1}) * (1+ I_t)$$

Where

ARR_{t-1}	*is the Actual Regulated Revenues in Relevant Year t-1*
MAR_{t-1}	*is Maximum Allowed Revenues as determined in Relevant Year t-1*
I_t	*is the interest rate for the Relevant Year t calculated based on EURIBOR plus S%, where S is a value to be determined by the Regulator at Periodic Reviews and which reflects the premium payable by the licensee for short-term loans above the EURIBOR rate*

The ARR calculated by ERO to have been collected by the DSO are €67.6 million whereas the MAR for the second Relevant Year was set at 70.2 million. The difference of €2.6 million has been returned to KEDS with interest.

6 DSO MAR

The final MAR of the DSO for the Second Relevant year is €65.9 million which is €4.2 million less than the MAR allowed under the first Relevant Year of the Regulatory Period.

ZYRA E RREGULLATORIT PËR ENERGJI
ENERGY REGULATORY OFFICE
REGULATORNI URED ZA ENERGIJU

Consultation Paper

The Eighth Electricity Tariff Review

ETR8 (2014-2015)

Maximum Allowed Revenues Calculation of the Public Electricity Supplier (PES)

DISCLAIMER

This Consultation Paper has been prepared by ERO for the purpose of receiving potential comments from stakeholders. It does not represent a decision by the ERO and should not be interpreted as such.

March 2014

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1 Introduction

The Energy Regulatory Office is currently in the process of conducting the Eighth Electricity Tariff Review for the Public Electricity Supplier (PES) and the Regular Adjustment for the Second Relevant Year of the ETR7 Tariff Review for the Regulated Generator (KEK), Transmission, System and Market Operator (KOSTT) and the Distribution System Operator (DSO). This is the first time ERO undergoes a Regular Adjustment process with the newly adopted Pricing Rules which allow for multi-year tariff controls.

ERO would hereby like to invite all stakeholders to comment on ERO's proposals given in this Consultation Paper. Comments may be submitted until 18 April 2014 and should be sent either by email to ero.pricing-tariffs@ero-ks.org, with the subject line "ETR8 Comments", or by mail to the address of ERO: Rr. Dervish Rozhaja Nr.12, 10000 Prishtinë, Kosovë, marked for the attention of "Pricing and Tariffs Department".

At this stage, ERO has taken no decisions on the MAR which will be effective from April 1st. These are preliminary proposals. ERO invites all stakeholders to provide comments on ERO's views presented in this Paper.

2 Annual Updates and Regular Adjustments

In 2013 ERO conducted the Periodic Review Process (ETR7) during which it set the Maximum Allowed Revenues for the next five Relevant Years for the Regulated Generator (KEK), the Transmission System and Market Operator (KOSTT) and the Distribution System Operator (DSO). The Maximum Allowed Revenues of the Public Electricity Supplier (PES) were set for one year during the Input Values Review process as per the Rule on Public Electricity Supplier Pricing.

The Pricing Rules approved by ERO state that a Regular Adjustment process shall be undergone between each Relevant Year in order to calculate the permitted change in Maximum Allowed Revenues. This includes updating the loss allowance for forecast and actual energy flows, indexing allowed Operating and Maintenance costs, Depreciation Allowance and Allowed return to inflation and applying the pre-set efficiency factors for these licensees. The Regular Adjustment Process differs from a full-blown Periodic Review in which ERO would undergo a detailed review of the Allowed Operating and Maintenance Costs, allowed losses and efficiency factors and Allowed Capital Expenditure Programmes. During Regular Adjustments, ERO only mechanically adjusts for differences between allowed and actual values of what has already been allowed during Periodic Reviews.

The Maximum Allowed Revenues of the PES are set for a one year period but the Input Values, which are used in calculating the MAR of the PES, are set during Input Values Reviews and are fixed for a prolonged period of time. The MAR of the PES is reset during each Annual Update to correct for differences between forecast and actual costs, under or over-recovery of MAR in the Relevant Year due to differences between forecast and actual billing and under or over-recovery of MAR due to differences between forecast and actual wholesale power costs and forecast and actual pass-through costs, subject to any sharing between the PES and Regulated Customers of imbalance costs and export revenues.

During the last Periodic Review Process, ERO set the allowed level of Operating and Maintenance costs, allowed capital expenditures, Efficiency Factors, Economic Asset Lives, Profiling Factors[17] and Weighted Average Cost of Capital and the S-factor of the Regulated Generator, TSMO and DSO. Therefore the overall level of these allowances is not a subject of discussion during the Regular Adjustment process. As per the principles of the Pricing Rules, during the Regular Adjustment ERO will:

61. Index the Allowed Operating and Maintenance Costs of all licensees for the Efficiency Factor which is set during the Periodic Review process and for Annual Inflation which is set using the Harmonized Index of Consumer Prices (HICP) for All Items in the Eurozone;
62. Set the Availability Target of the Regulated Generator;
63. Set the Energy Charge and the Capacity Charge of the Regulated Generator;
64. Update the Allowed Lignite Supply Costs (LGSCt) of the Regulated Generator. This update includes the pre-set Operating and Maintenance Costs, Depreciation and Allowed Return of the Mine by following the same principles as for the Regulated Generator. The pre-set LGSCt will include the difference between actual and allowed lignite supply costs in the first Relevant Year of the Regulatory Period;
65. Update the Other Fuel Costs (OTFCt) of the Regulated Generator to include differences between allowed and actual costs in the first Relevant Year of the Regulatory Period;
66. Calculate the Wholesale Power Purchase Costs which include the cost of purchasing power from the Regulated Generators, Imports and the Retail Margin. These are updated to reflect the difference between allowed and actual power purchase costs in the previous Regulatory Period;
67. Set the Allowed Cost of Losses (LSSCt) for the Transmission System and Market Operator (KOSTT) and update these to include the difference between allowed and actual cost of losses for the previous Regulatory Period, which may have arisen due to changes in wholesale power costs or changes in the flows of electricity in the transmission system;
68. Update TSO MAR to reflect revenues generated through the Inter-TSO Compensation Mechanism;
69. Update TSO MAR to reflect the difference between Allowed and Actual Regulated Revenues in the previous Relevant Year (t-1);
70. Calculate the Renewable Energy Surcharge which will be used to finance the Renewable Energy Fund (REF) in order to pay the Feed-in Tariffs for RES Generators admitted to the Renewable Energy Sources (RES) Support Scheme;
71. Set the Transmission Use of System, Market Operator and System Operator Charges;
72. Set the Allowed Cost of Losses (LSSCt) for the Distribution System Operator (DSO) and update these to include the difference between allowed and actual cost of losses for the previous Regulatory Period, which may have arisen due to changes in wholesale power costs or changes in the flows of electricity in the Distribution system.
73. Update DSO MAR to reflect the difference between Allowed and Actual Regulated Revenues in the previous Relevant Year (t-1);
74. Set the Distribution System Operator Charges;

[17] ERO has not set a Profiling Factor however these can only be set during Periodic Reviews.

75. Calculate the Allowed Retail Costs of the Public Electricity Supplier, which include the costs of operating and maintaining the PES activity, corporate costs, depreciation allowances and other reasonable costs of the PES;
76. Set the new PES MAR by including the difference between allowed and actual billing in the previous Regulatory Period;
77. Set the new Retail Tariffs;

3 Maximum Allowed Revenues of the Public Electricity Supplier (PES)

Unlike the Regulated Generator the TSMO and DSO, whose MAR is set for a 5 year period, the MAR of the Public Electricity Supplier (PES) is set on an annual basis. The MAR of the PES is set by using the Input Values which are established during Input Values Reviews (the last Input Value Review was aligned with the Periodic Review process during the Seventh Electricity Tariff Review (ETR7).

According to the PES Pricing Rule, the process of setting the PES MAR is split into three phases:

- **Phase I**: Determination of import costs. During this phase, the PES submits to the Regulator its own proposal of the import costs necessary to cover energy demand at least 80 days before the start of the forthcoming Relevant Year. At the same time, the Regulated Generator submits to the PES their application for the Regular Adjustment of the Regulated Generator MAR for the second Relevant Year.
- **Phase II**: Determination of retail costs. During this phase, the PES submits to the Regulator their proposal of the Retail Costs to be recovered within the next year. This includes allowed Operating and Maintenance costs, allowed corporate costs, allowed depreciation and any other costs which are reasonably incurred by the PES in providing retail services to Regulated Customers;
- **Phase III**: Determination of Maximum Allowed Revenues and Regulated Tariffs. During this phase, the Public Supplier submits to ERO its proposal for the MAR of PES for the forthcoming Relevant Year.

Phase I of PES' application has been elaborated in Sections 4 and 6 of this Document. The rest of this section of the Document deals with the allowed Retail Costs (RETRt) of the Public Electricity Supplier.

3.1 S-factor and interest rate for adjustments

According to Schedule 1 Article 2.1 of the PES Pricing Rule, the interest rate applicable to the MAR of PES in any Relevant Year is calculated based on EURIBOR plus S% where S is a value determined by the Regulator at Annual Updates which reflects the premium payable by the licensee for short term loans. This is different from the principle applied in the other Pricing Rules[18] where the S value is set during Periodic Reviews and is kept constant throughout the Regulatory Period.

ERO has reset the S value of applicable for adjustments of the Public Electricity Supplier as follows:

[18] Namely the Generation, Transmission and Distribution Pricing Rule

The Kosovo Lending Rate has been obtained from the Kosovo Central Bank's Monthly Statistics Bulletin Table 14.2 (ODC Effective Interest Rates – loan interest rates)[19]. The value obtained is the investment business loan rate for loans up to 1 year. This value, for January 2014, is 13.08%

The final interest rate for adjustments is the value for January (13.08%) less the EURIBOR for January (0.537 – 1-year EURIBOR for January 2014) + 0.598 (the current EURIBOR rate) = 13.14%.

3.2 The applicable Rate of Inflation

PES have proposed that the inflation rate to be applicable for PES adjustments for 2013 is 2.5% as they consider this to be the "proper measuring unit for Kosovo". The inflation rate they propose is derived from the Annual Report of the Central Bank of Kosovo for 2012.

ERO notes that the PES proposal is not in line with the principles of the PES Pricing Rule. ERO used the Harmonized Index of Consumer Prices (HICP) for all items in the Eurozone to calculate the annual applicable inflation rate for PES. The resulting inflation rate is 0.7%.

3.3 PES Adjustments

3.3.1 Adjustments for costs of the Retail Margin

ERO has included an adjustment of the difference in calculating the Retail Margin for 2013 as per the Clarification letter. The difference of €0.6 million has been included in KEDS' MAR through the WHPC adjustment.

3.3.2 Adjustments for uncontrolled costs (Insurance)

KEDS have requested an allowance of €0.16 million to recover the costs of insuring their employees with a monthly cost of €13.92 per employee. KEDS claims that the contract was signed before the takeover of KEDS by the private investor (Kosovo Calik – Limak Energy).

ERO has adjusted PES MAR to include the insurance costs.

3.3.3 Adjustments for HQ costs

KEDS have requested an allowance of €1.2 million to recover the expenses of the reallocation of HQ employees upon the separation of activities between KEDS and KEK. KEDS state that this allowance will be used to recover the additional costs of new employees which were hired to fill in for the positions envisaged in the organizational scheme.

ERO has adjusted PES MAR to include the HQ costs allocation.

3.3.4 License fee

KEDS have requested an adjustment of €0.038 million to recover the license fee costs which resulted from the implementation of fee payments as of May 1 2013.

ERO has adjusted KEDS MAR to include the licence fee adjustment and has included an equivalent adjustment for the second Relevant Year.

[19] http://www.bqk-kos.org/repository/docs/2014/MSB%20no.%20149.%20english.pdf

3.4 Allowed Retail Costs (RETMt)

Allowed Retail Costs of the Public Electricity Supplier are set according to Article 10 of the PES Pricing Rule and include operating and maintenance costs, corporate costs, depreciation costs and other reasonable costs incurred while providing retail service to regulated customers.

Although Retail Costs are set during each Annual Update, ERO underwent a thorough review of PES Retail Costs throughout the next 5 relevant years during the last Input Values Review, using the available expertise of its engineering consultants. During each Annual Review, ERO will set the O&M and Depreciation allowances based on ERO's revision results of the Input Values Review.

3.4.1 Allowed Operating and Maintenance Costs

Allowed Operating and Maintenance Costs for the second Relevant Year have been estimated to be €12.4 million. PES' Operating and Maintenance costs will include an annual inflation allowance of 0.7% to the previously allowed OPMCt value. The final allowance of O&M costs of the Public Electricity Supplier is, therefore, €12.5 million.

3.4.2 Allowed Depreciation

The Depreciation allowance set for the second Relevant Year was based on ERO's review of the PES' capital expenditure plan for the next five relevant years. The depreciation allowance for the second Relevant Year was calculated to be €0.2 million. PES' allowed depreciation will include an annual inflation allowance of 0.7% to the previously allowed depreciation allowance. The final value of allowed depreciation of the PES will, therefore, be €0.2 million.

3.5 Allowed Working Capital Costs (WCLCt)

Article 11 of the PES Pricing Rule stipulates that the Public Electricity Supplier should be allowed to recover working capital costs. Working Capital costs will be calculated using the cost of financing this working capital (EURIBOR + S%) plus the sum of allowed retail costs, allowed wholesale energy costs, allowed wholesale capacity costs and pass-through costs. The formula for calculating the WCLC allowance is provided in Paragraph 2.1 of Schedule 1 of the PES Pricing Rule:

$$WCLC = (1 / 12) * I_t * (RETR_t + WHPC_t + PSTC_t - NTFR_t)$$

Where

I_t	*is the interest rate for the Relevant Year t calculated based on EURIBOR plus S%, where S is a value to be determined by the Regulator at Annual Updates and which reflects the premium payable by the licensee for short-term loans*
$RETR_t$	*is allowed retail Costs in Relevant Year t*
$WHPC_t$	*is allowed wholesale power costs in Relevant Year t*
$PSTC_t$	*is Pass-Through Costs in Relevant Year t*
$NTFR_t$	*is non-tariff revenues in Relevant Year t*

The WCLC allowance will also include a compensation for the difference between the allowed WCLC under ETR7 and the working capital costs which would have resulted from ERO's clarification letter. The resulting final WCLC to be recovered by PES is €2.3 million.

3.6 KREV

One of the key elements affecting the MAR of the Public Electricity Supplier (but also that of the DSO and TSMO) is the difference between the Maximum Allowed Revenues (MAR) and the Actual Regulated Revenues (ARR). This difference is recovered by applying the *KREV* formula, as defined in Article 5 paragraph 3.2 and Annex 1 paragraph 2.4 of the PES Pricing Rule.

The purpose of the *KREV* is to ensure that, within each Relevant Year, the Public Supplier recovers the difference between Allowed and Actual revenues which may result from a difference in billed electricity. Differences in billing may occur as a result of the change in the volume of electricity consumed from year to year (changes between forecast and actual volumes of electricity which may occur due to changes in climate conditions, changes in economic growth rates, etc.). Regardless of the change in consumption, the Public Supplier – based on the forecast energy consumption – is obliged to purchase the electricity to supply the forecast demand. If the demand is lower than the forecast, then the Public Supplier is burdened with stranded costs for factors which are outside their control (such as the examples above). The *KREV* is meant to protect the public supplier from the occurrence of such events which are outside of the PES' control.

Nevertheless, actual revenues may differ from allowed revenues for reasons which are not directly related to change in the volume consumed. The Public Supplier applies Time-Of-Use (TOU) tariffs to encourage efficient consumption and shift demand away from the peak. MAR can therefore differ from ARR even if the total volume of electricity consumed is equal to that forecasted but the share of consumption between the peak and non-peak tariffs changes from the share forecasted. Such changes may happen in rare cases where customers significantly increase their energy efficiency awareness and decide to dramatically change their consumption patterns in favor of the non-peak tariff (they shift their consumption toward the night tariff). In such cases, when ERO is convinced that this is the reason of the shift in consumption, it is reasonable to compensate the PES by applying the *KREV* on the grounds that the change in the share of consumption is outside of PES' control.

A more realistic scenario under which KREV may have a positive value (MAR>ARR) if consumption remains the same is the change in the day-to-night consumption which may occur due to inaccurate billing with respect to the time the energy is consumed. Since the high tariff results in higher bills for customers, there is an incentive to tamper the time-clock of the meter such that the biggest share of consumption, that during the peak tariff, is billed with a non-peak tariff in order to lower their bills. Under such a scenario, the Public Supplier will not be able to bill the forecast MAR as the ratio of high tariff to low tariff billing has changed. In this case, however, the change in the share of consumption has occurred due to the tampering of the meters which are under the ownership and control of KEDS. In such cases, the Public Supplier should not be compensated for the difference between MAR and ARR.

In setting final electricity retail tariffs, ERO considers the Maximum Allowed Revenues to recover the reasonable costs of providing the regulated service as well as the estimated consumption in each

tariff category through which the MAR will be recovered. The ratio of the first to the second leads to the final retail tariff (€c/kWh). In their role as a Public Supplier, KEDS submits to ERO – during each Annual Adjustment – their own forecast of the *consumption* of electricity for the forthcoming Relevant Year. In fact, following numerous meetings and discussions with KEDS, ERO has come to understand that the data submitted by KEDS has in fact been *billed* data rather than *consumed* data. As stated above, an electricity unit may be billed at a low tariff although it may have been consumed at a high tariff due to the fact that the meters are not synchronized with real time[20] - a situation which has generally favored household customers with mechanical metering devices. ERO has thus far set the retail tariff level under the assumption that the physical data submitted to ERO reflects *actual* consumption rather than *billed* consumption. Data obtained from the Transmission, System and Market Operator suggest that the energy entering the distribution is heavily biased towards the peak tariff (around 70% high tariff vs. 30% low tariff) whereas KEDS expect this ratio to be rather equal (55% on the high tariff vs. 45% on the low tariff). KEDS would therefore be able to achieve a higher level of MAR with the existing level of tariffs if they are able to properly apply the approved tariff structure and bill the electricity at the proper time-slot when it is consumed. This further implies that KEDS would have been able to recover the MAR this year had all customers been billed properly as is the case for electronically metered customers. The situation presents a cross-subsidization between household customers on the favor of the customers with mechanical meters and therefore needs resolving.

ERO has considered numerous scenarios which could be proposed to address the situation which, regrettably, has not been raised by KEDS in any of their applications thus far. Nonetheless, since the first Relevant Year is also the first year of KEDS' operation, ERO does not consider it reasonable to apply an adjustment to the KREV for the first Relevant Year. Allowing the current situation to continue, however, would imply permitting a discriminatory treatment between regulated household customers. Furthermore, by accepting the actual high-to-low billing ratio, ERO would effectively remove any incentives for KEDS to speed up the implementation of modern metering devices which enable accurate metering of electricity customers and enable the proper implementation of the tariff structure. ERO notes that the proper implementation of this structure provides strong incentives for efficient utilization of electricity, shifting demand away from the peak thereby avoiding investments which would otherwise have been financed by more investments with a high cost of capital.

Data on actual billing provided by KEDS suggests that the proportion of electricity billed under the high tariff and that billed under the low tariff has not changed significantly over the past 4 years as the share of electricity billed under the high tariff in 2013 is only 2 percentage points higher than the one in 2010 (48% in 2013 against 46% in 2010). However in 2013, while conducting a cost of service study, ERO obtained actual billing data from a sample of 870 electronic meters for the months of February, March and April 2013. Since the data obtained include only electronic meters, it can be

[20] The non-synchronization of the meters also occurs due to load-shedding. Most mechanical meters do not have batteries to power the clock of the meter during load-shedding. In such cases, when the power Is restored, the clock of the meter lags the real time by the duration of the time that the load is shed. As load is shed numerously throughout the year, the time-clock of the meter tends to bill half of the consumption during peak tariffs and the other half during non-peak tariffs. This situation has generally favored household customers with mechanical metering devices as their consumption tends to be biased towards the peak tariff period. Electronic meters have resolved this issue.

considered a better representative of the consumption ratio than data from mechanical meters as electronic meters do not have time-of-use billing problems. These data suggest that 72.6% of the energy is billed on the high tariff whereas 27.4% of the energy is billed on the low tariff.

The overall high tariff billing ratio of 48% achieved by KEDS in 2013 could have been improved had they managed to install the 66,000 meters for which they received an Allowed Return in MAR 2013. KEDS have shown that in 2013 they have only installed 29,511 new electronic meters which is less than the 56,884 installed by KEK in the previous year.

ERO will therefore increase incentives for KEDS to install electronic meters in order to avoid billing issues. In the absence of one year data ERO will assume that 72.6% of the energy sold to household customers with TOU meters will be sold on the high tariff and the rest will be sold on the low tariff, in line with the average above. ERO realizes that, because the above average is taking into account winter months, it is picking up more low-tariff billing than the expected annual average because household customers are likely to use electricity for heating at night during winter months and this is not likely to be the case for the summer. Nonetheless ERO will not increase the 72.6%[21] average until more accurate data about annual consumption is at its disposal.

This proposal does not have an effect on MAR.

3.6.1 KREV Double-counting

ERO has investigated concerns of a possible double-counting in applying the KREV adjustment and has concluded that the KREV formula, as given in the PES Pricing Rule, is double counting any differences between allowed and actual values of pass-through costs of the PES (TSMO and DSO costs). This is best illustrated in the following example:

[21] This is one of the options presented to the Board and has been included here as a default setting.

Table 7 KREV double-counting

		Allowed	Actual	t+1
Sales	GWh	3,000	2,800	3,000
Losses		25.0%	25.0%	25.0%
	GWh	1,000	933	1,000
Total energy	GWh	4,000	3,733	4,000
DUOS Charge	cent/kWh	1	1	1
Average Retail Tariff	cent/kWh	5	5	5
PES MAR	€	15000	14000	16000
of which DSO pass through	€	4000	3733	4267
DSO MAR	€	4000	3733	4267
PES KREV	€		1000	
DSO KREV	€		267	
DSO + PES MAR	€	19000	17733	20267
	€		-1267	1267

The example assumes that ERO has initially allowed a MAR of €15,000 of which €4,000 are pass-through costs to the DSO. It further assumes that the DSO is able to achieve the level of losses allowed by ERO and that actual sales are lower than those forecasted by 200 GWh. In this scenario, with the same retail prices, the Public Supplier will obtain an ARR of €14,000 which is €1,000 less than MAR. The DSO KREV (because of the smaller than forecasted energy flows) is also €267 (the difference between KREV MAR of €4,000 and KREV ARR of €3,733). The PES passes through the DSO MAR through its own KREV as a pass-through cost. Customers will therefore effectively be paying a €1,267 despite the fact that the PES ARR was only €1,000 less than MAR.

The KREV of the PES, which was originally estimated to be €15.4 million (the difference between MAR of €224.5 million and ARR of €211.1 million after interest) was therefore adjusted downwards by the value of the DSO KREV and has been adjusted upwards by the value of the TSMO KREV to resolve the double-counting issue.

The final KREV value of the PES is €12.3 million.

4 Retail Tariff Structure

Following the recommendations of the report of the Parliamentary Commission for Economic Development, Infrastructure, Trade and Industry, ERO has issued a Consultation Paper in which it presented potential alternative ways of addressing the concerns raised by report. Stakeholder's comments on ERO's Consultation Paper are summarized in the following section.

4.1 Stakeholder comments

4.1.1 PES Application

PES proposed a change in the retail tariff structure based on the recommendations of the Parliamentary Commission and the "un-satisfaction of customers with the actual tariff structure". KEDS consider that the current tariff structure is complicated and incomprehensible for electricity customers.

PES are proposing to completely remove the block-tariff structure from the current retail tariff system. Their argument is based on the fact that the first tariff block of the household customers is meant to aid vulnerable customers however all customers benefit from it. They consider the fact that the third block is paying a higher tariff than the cost of service to compensate for the lower tariff of the first block can be discriminatory to those household customers how have a high energy consumption.

More importantly, PES are proposing to remove the Time-Of-Use (TOU) and Seasonal components of the retail tariff structure. Their argument for removing TOU tariffs is based on the fact that customers are tampering the clock of the meter and that the tariff hours are incorrect. They further claim that there is lack of time-differentiation in the wholesale price which would make TOU tariffs pointless. KEDS' main argument is that removing the blocks, TOU and seasonal components of the retail tariff results in a simpler and easier to understand tariff structure. It is implied this will yield to higher efficiency savings.

4.1.2 KOSTT Comments

KOSTT has not supported the change in the current tariff structure. They consider that any changes in the current tariff structure will negatively affect household customers, especially vulnerable customers. KOSTT state that all possible alternatives provided by ERO will inevitably remove any incentives for energy savings, thereby increasing energy consumption and electricity prices. For example, removing the winter tariff will increase consumption in the winter season when the sector is already in a system deficit. This will require additional imports and an increase in final tariffs.

4.1.3 KEK Comments

KEK also opposes any changes to the current tariff structure. KEK welcome ERO's initiative and discussion to improve the structure of the retail tariffs. They agree with ERO that removing the seasonal component of the retail tariff would simply the structure of the tariff however they favor keeping them since this would prevent an increase in consumption. KEK also oppose removing the TOU component of the tariff as they suggest the current structure contributes to shifting demand away from peak consumption.

4.1.4 NGO "Konsumatori" Comments

NGO "Konsumatori" favors the removal of block tariffs who they consider is increasing the cost of supply for household customers.

4.1.5 KOSID Comments

KOSID opposes any changes to the current tariff structure. Although they agree that the current tariff structure is complex and causes confusion to household customers, the structure is a good

response to the current electricity consumption trends and socio-economic factors of household customers. Nevertheless, KOSID consider that electricity bills should be modified in order for them to be more understandable for customers.

4.1.6 Comments of Mirian Miriani – an electricity customer

Mirian Miriani opposes changing the current tariff structure. Mr. Miriani considers that the current tariff structure is easy enough to understand for people that want to understand it. He further states that any changes to the tariff structure would be an advantage to KEDS at the expense of those household customers that save energy.

4.2 ERO's position on the retail tariff

ERO's Public Consultation process was a response to the recommendations of the Parliamentary Commission to consider changes to the current retail tariff block structure which was considered too complex to understand for electricity customers. As stated in ERO's Consultation Paper, any changes to the retail tariff structure may have negative consequences towards vulnerable customers as this would imply an increase in the tariff applicable for the first block (<200 kWh) of the current retail tariff. The current tariff structure, due to the currently limited generating and distributing capacity of the sector, favours those customers who consume a smaller volume of electricity. While ERO supports the view that tariffs should be simple and easy to understand for customers, ERO does not believe the simplicity of tariffs should be achieved at the expense of the overall welfare of these electricity customers.

ERO notes that removing the seasonality and TOU factors from the current tariff structure is likely to lead to an increase in electricity consumption during winter and peak times when the system is reaching its maximum transmitting/distributing capacity and when we are importing electricity. Consequently this is likely to lead to an increase of imports in the share of electricity consumption in Kosovo which will lead to higher electricity prices.

ERO also supports the view that removing Block Tariffs may place a considerable financial burden on vulnerable customers. The first block of electricity, although applicable to all customers, provides customers with the opportunity to consume an essential volume of electricity for basic household needs at an affordable price. ERO does not agree with KEDS' view that this presents a discriminatory treatment to high consuming customers as any customer can choose the consumption level in the same customer category.

ERO will therefore continue to apply the current retail tariff structure at least until reliable data on consumption profiles are available and a proper load profile study is made to improve the current billing system.

5 Summary

The final MAR value for the sector for the Second Relevant Year is €247.1 million which is €23 million more than the value allowed for the first Relevant Year of the Regulatory Period.

Allowed Retail Costs (Article 10 of the PES Pricing Rule) have been estimated to be €14.2 million. This allowance has included an adjustment for health insurance, HQ reallocation and license fee costs.

Allowed Pass-through costs (PSTCt) for payments to the DSO and the TSO are €83.6 million. Allowed Revenues from sales of losses to the TSO and the DSO are €29.0 million. Working Capital costs are €2.3 million. Wholesale Power Costs have been adjusted to include the difference between the allowed and CL retail margin of €0.6 million. Total Wholesale Power Costs are €148.4 million. Allowed Bad Debts are €12.3 million with an additional €0.3 million for the difference between Allowed and CL values last year. The allowances are summarized in Table 6.

Table 8 Allowed Retail Costs, Pass-through Costs and Sales Revenues of the PES

PES MAR		ETR7 Allowed	ETR7 CL	ETR7 Actual	ETR8 Allowed
$OPMC_t = OPMC_{t-1} * (1 + CPI_{t-1}) * (1 – E_t)* (1 – P_t)$	€m	12.4	12.4		12.4
DEPCt = DEPCt-1 * (1 + CPIt-1) * (1 – Pt)	€m	0.8	0.8		0.2
Health Insurance Allowance	€m				0.2
HQ Reallocation Allowance	€m				1.3
License allowance	€m				0.1
KOSTT fees	€m	15.1	15.1		17.7
DSO fees	€m	70.2	72.2		65.9
TSO Revenues	€m	3.4	3.4		3.2
DSO Revenues	€m	37.1	39.1		25.8
WCLC	€m	3.0	3.1		2.3
WHPC	€m	164.8	168.4	155.9	148.4
Retail Margin	€m	4.5	5.1		
Retail Margin Adjustment	€m				0.0
BDTA	%	5%	5%	5%	5%
BDTA	€m	12.1	12.4		12.3
BDTA Adjustment	€m				0.3
PES KREVt	€m				15.4
DSO KREVt	€m				-3.0
TSMO KREVt	€m				-0.2
PES MAR	€m	224.6	229.1	211.0	246.5