

Impact of Time Relay for Changing of the Tariff on Commercial Losses at Mechanical Meters

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Abstract: Relying on numerous visits of the customers in the field as part of the regular activities to verify the time relays, a numerous disproportions are found in electricity consumption with low and high tariff and this has given indications that Kosovo Energy Corporation (KEK) could be damaged in the field of financial terms. As a result, in this area which was allegedly manipulated easily and not regulated properly, in April 2011 is scheduled the plan of activities to be expired in detail. Summary of actions and analysis in this document is intended to put in writing the situation in the field, analysis and recommendations on how to regulate this problem together with the analysis of benefits from these activities in the form of analytical studies. The main goal of this research is to increase the efficiency of operations for real electricity billing and real cost according to the setting of realistic tariff system approved by ERO (Energy Regulatory Office).

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1. INTRODUCTION

In general, the problems of keeping the power stable, sustainable, with parameters from IEC standards, by emphasizing on the voltage and frequency fluctuation is the duty and obligation of energetic enterprises, a problem that is quite large technical complexity.

Power system consists of a cluster of objects connected physically and functionally among themselves and the composition starting from output-power plants and hydropower plants (generators and block transformers), substation of different levels, conductors of high, medium and low voltage levels and customers also. Stability and sustainability for normal work conditions depends on each element of the system and other associated conditions. (Gashi, 2011)

Self-creation of the tariff system aims to maintain the system from overloading and unnecessary use continuous (rational) of electricity. By adapting the productive opportunities, as electricity production is from geothermal sources in our case or any other electricity productions, the surplus production in system creates the danger of collapse of the system or if electricity flows into EU states, the penalty should be paid. Construction cost of power plants with temporary use cannot be compensated with optimal prices (market cost) of electricity and therefore required special costs are required to create the possibility of recovering investment costs. Tariff system with different rates at different real times creates the conditions for financial balance of these costs. (Gacaferri, 1980)

One of the relevant factors in the impact of 'ironing' daily diagram of the loads is the relay tariff for registration

Adjustment of electric tariffs in different daily time tariffs.

This time relay is built for some opportunity adjustment, but in the case of our study is taken into account only the main part of maximum load (which reached evening) and the high financial profitability of the firm, where this study supported by adequate projects and practical actions represents an innovation for the firm. (KEK JSC Reports, 2011)

A diagram (Diagram 1) of a part of the system presented below shows large fluctuations occurring during period day.

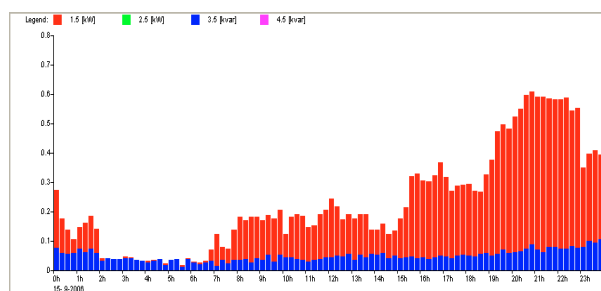


Diagram 1.

Although tariff relay is not a complex technical device that deserves a deeper study, in this case our firm as an innovation with high financial profits and the complexities of the electricity consumption is an interesting study based description.

The idea of developing such research has come from the purpose of the performance of the Kosovo power System and increasing economic profits. (KEK JSC Reports, 2011)

Such chaotic situation precedes political issue in occupied Kosovo, the war and after the war of survival.

Further base analysis represents the main source of data called CCP which will store all the electricity and financial flows for each group of customers and various other forms of analytical output distributor, distributed transformers, locations, and different level of voltage.

Based on many customer visits undertaken as part of our usual activities, we have encountered disproportions of low and high tariff expenses thereby indicating that our company may face financial damages and losses in this field. As a result, we have planned to research this easily manipulated and disorganized field according to our plan of activities for April 2011.

The summary of analysis and actions in these paper intends to put the planning, activities, goal and profit evaluation from these activities in paper as a study analysis. The main goal of this research is increasing the efficiency of real time billing and real cost according to the tariff system approved by the ERO. (Energy Regulatory Office, 2011)

By doing billing analysis and making field visits, relevant data for selected consumer groups are taken, so appropriate settings are created to improve the existing situation. Determinations of criteria to give consumer groups based LT and HT are given as:

1. Group 1: $LT = (1.6 - 1.8) HT$
2. Group 2: $LT = (1.8 - 2) HT$
3. Group 3: $LT = (2 - 3) HT$
4. Group 4: $LT = (3 - 5) HT$
5. Group 5: $LT = (5 - 10) HT$
6. Group 6: $LT > 10 HT$

LT – customer electricity expenses for low tariff [in kWh and €]

HT – customer electricity expenses for high tariff [in kWh And €]

Note for Group 4: Generating list of customers for the period 01/11, 02/11 and 03/11 have from 3 to 5 higher low tariffs than those with higher tariff. (Energy Regulatory Office, 2011)

Firstly, a criteria for the selection of technical data is made which classifies customers according to the tariffs, low tariff (LT) and high tariff (HT) by using customer electricity in kWh. The second step is classifying clients into groups based on analysis made on the field in a district of Kosovo.

Furthermore are given the proposals for further steps to practical action on the field to improve the situation of the use of electricity by tariff system approved from ERO (Energy Regulatory Office). (Energy Regulatory Office, 2011)

2. FIELD EXAMINATION AND ANALYSIS

Tariff system is a stimulant of the customer care about how to use electricity from customers, which then serves as an effective tool to protect the power system and most of the Balkan states have a similar form to these systems.

Most European countries do not use electricity for heating the environment, water boils and other household users which are common in Kosovo, they use natural gas, hot water from systems, shared cleaning services etc., this is the reason why tariff relay is not important there, different from Balkan countries. This also resulted in such study and actions steps in our company where the results are amazing.

Study materials for this kind of theme has to do mostly with electricity from measurements to the distributions, in general; education, research etc.

Resource and basic material for such a study has to do with ‘tariff systems’ of various Balkan countries that are mainly generated by Energy Regulators and the rules of the electricity market. Documents are also used for the opening of the market in Eastern Europe and Europe’s energy committee.

The fundamental practical basis for obtaining research results and methodology are used mainly based on official documentation of KEK strategy for reduction of technical and commercial losses, the strategy of development of metering point, the strategy of reducing financial losses up to internal monitoring through CCP application.

In table 1 customer are compared with the number of different reports of electricity consumption assigned into different groups according to the ratio LT/HT. (KEK JSC Reports, 2011)

According to the criteria set by CCP system (Customer Care Program), generated data to all customer number for a district are presented in the table 1:

Table 1: Customer number based on LT/HT report

Report LT/HT	Total number of customers
Group 1	10,693
Group 2	8,867
Group 3	29,400
Group 4	29,120
Group 5	18,905
Group 6	17,347
Group 1	10,693

Based on table 2, customers who develop small business and use electricity for lighting, computers etc, conduct their activities mainly during the day, the definition for this category is done also during this study, so customer list is generated from CCP also. (KOSTT Transmission Operation, System and Market Operator J.S.C, 2011)

Table 2: Customer number based on LT/HT report

LT/HT report for	Commercial customer	Total billing (€)
Group 3	2787	919,859
Group 4	2848	896,883
Group 5	2120	576,357
Group 6	1745	495,581
TOTAL:	9500	2,888,681

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