Discussion on the innovative mode of charge management under the situation of electric power marketization reform

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Abstract. The development of electricity spot market has greatly increased the workload of the work of charging and collecting. Charge and collect work is a very important part in the daily operation of power supply enterprises.The quality of the work will affect the economic benefits of the power supply enterprises to a certain extent, and even relates to the resources and energy security of the country.Therefore, only by strengthening the management of charge and verification, optimizing the process of charge and verification, and innovating and upgrading the management mode, can the quality of charge and verification work be improved to a certain extent and enterprises be helped to obtain greater economic benefits.This article is mainly to analyze the power supply enterprises under the situation of the reform of the power market charge and check the work process and the power supply enterprises to charge and check the work of management innovation mode.

1. Introduction

With the deepening of power market reform, power spot market is gradually mature.In 2023, the continuous settlement trial operation of spot market of electricity in Guangdong, Shanxi and other places is still in progress, and there will be more provincial spot pilot into the long-cycle settlement trial operation within the year.As more and more provinces enter the trial operation of long-cycle settlement, it can be predicted that the varieties of spot transactions are increasingly rich and the frequency of transactions is increasing. However, the high-frequency spot transactions bring great difficulty to the review work of power grid marketing.

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2. Optimization of power supply company's charge and receipt process

In the process of traditional electricity fee reading and collection, the power supply company is mainly responsible for electricity fee reading, meter reading, cleaning, household meter reading, household investigation and other procedures from the 1st to the 13th of each month.There are a lot of problems in the work flow of the traditional power supply company. The main problems are low informatization level, poor work efficiency, high review rate, and no way to timely and effective recycling of electricity.At the same time, there are also a series of problems. The reason for these problems is that the traditional charge and verification work simply pays attention to the double links of meter reading and electricity and water, ignoring the work of field inspection.When there is a problem, it is too late to correct, causing very serious problems, so the optimization of the power supply enterprise charge and check process must start as soon as possible.

2.1. Establish the optimization objectives

The optimization and improvement of the process of charge and review must meet the requirements of the market in our country. First of all, we must improve the quality of charge and review service, as well as the timely and effective recovery of the electric bill, and ensure that we can quickly control the error and line loss in the process of electricity charge and review to further improve the economic benefits of charge and review. Enhance the quality of service to relevant customers and reduce the waste of relevant staff in this area.

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2.2. Process improvement and optimization plan

First of all, we should improve the organization, classify it according to different types of work, then set up a working group, and introduce modern information technology and network technology according to the development of The Times and society.Implement targeted management measures according to customers' electricity consumption and their specific situation, so that members of the team can fulfill their responsibilities.In addition, we can adopt the electricity contract management mechanism, let the power supply company set up a special charging department, and then carry out further work on these.Finally, to introduce intelligent billing system, the traditional charge and check work is very busy for the staff, and to a certain extent there will be a lot of problems, if the introduction of intelligent billing system, then to a certain extent can reduce these problems.

3. The innovation of the management mode of the power supply company under the power market reform

3.1. Time-sharing measurement and fitting of power supply

Electricity quantity data collection should meet the requirements of minimum particle size settlement under different trading environments. When collection fails, electricity quantity fitting data should be provided for market settlement.

3.2. Accelerating the deployment of intelligent diagnostic functions for metering devices

Based on the running state of the metering device and the data collected remotely, the intelligent diagnosis function is developed to monitor the metering device involved in meter reading during the purchase and sale period and timely discover the abnormal metering device.

3.3. Volume and price intelligent sorting

According to different medium - and long-term contract types, self-electricity and electricity price will be automatically cleared to adapt to the high frequency medium - and long-term transaction trend and improve the efficiency of electricity fee settlement.

3.4. Monitoring and early warning of the risk of electricity fee recovery

Based on the electric charge recovery risk monitoring tool, the paper conducts monitoring, analysis and automatic early warning on the electric charge recovery risk of electricity purchasing agent users, wholesale and zero-coupon users and the settlement and performance risk of electricity selling companies.

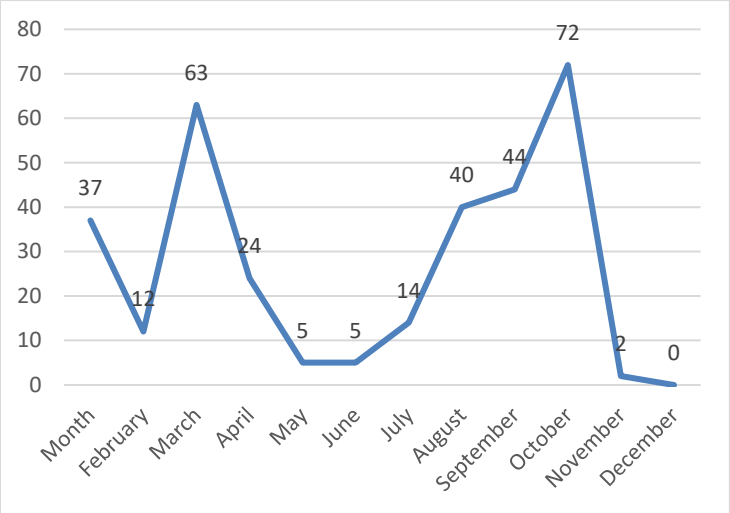

Figure 1. Survey on overtime of follow-up work order every month

3.5. Intelligent examination of electricity charges

Simulate the offline audit process of accounting experts, and carry out intelligent identification and automatic correction of anomalies.The following gives the changes of some indicators of power supply offices after the innovation of charge and receipt management mode.

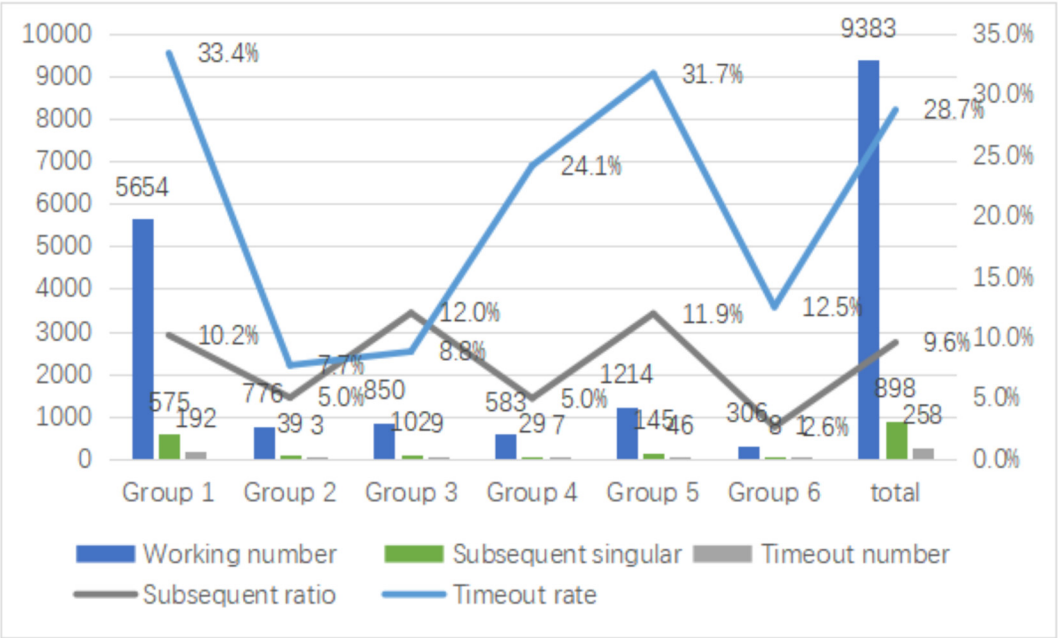

Figure 2. Follow-up work order timeout and proportion investigation

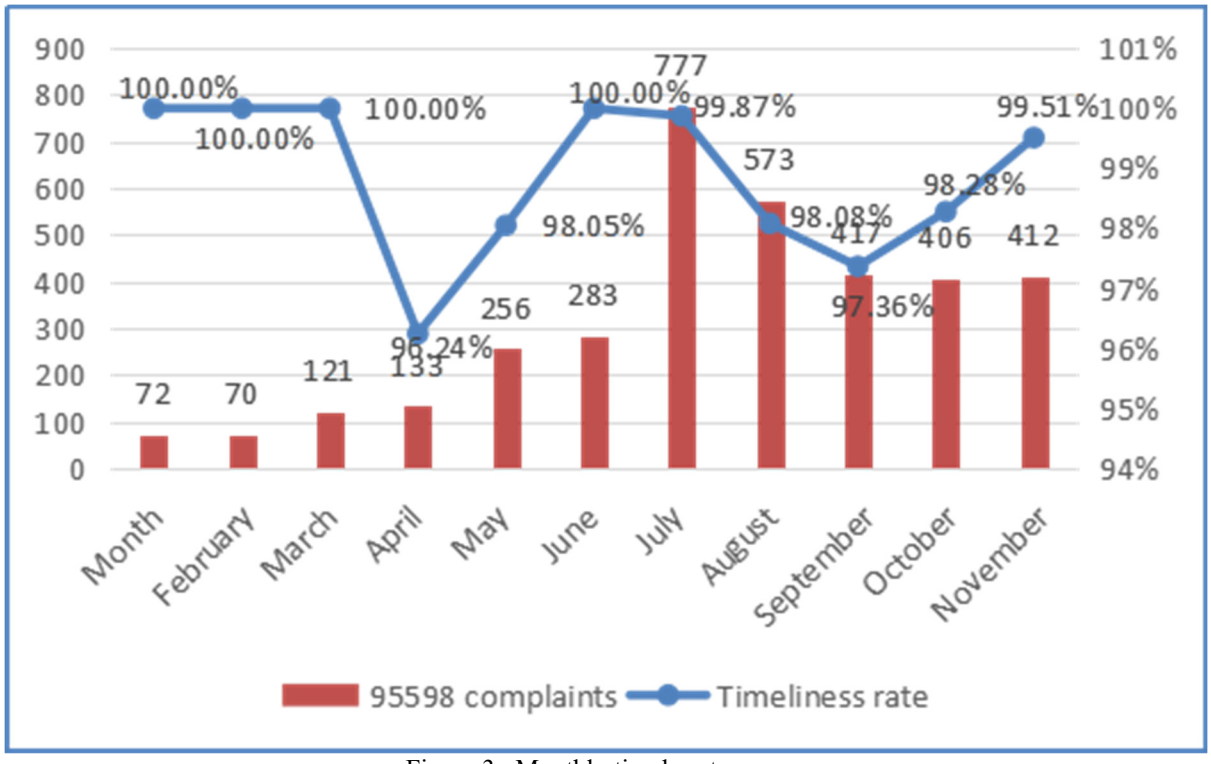

Figure 3. Monthly timely rate survey

From Figure 1, we can see the monthly overtime situation of follow-up work orders of X Power Supply Bureau. It can be found that since the implementation of the new model in March, the follow-up overtime work orders have been significantly reduced under the exclusion of the impact of emergencies in September and October on follow-up work orders. Meanwhile, It can be seen from Figure 2 and Figure 3 that the monthly timely rate, timeout rate and 95598 complaints of each group also decrease simultaneously, which directly verifies the effectiveness of the measures proposed by us.

4. Conclusion

The development of the electricity spot market has greatly increased the workload of charge, verification and collection. The trend of high-frequency time-segment trading in the medium and long term market has put forward higher requirements for the settlement quality and efficiency of power grid marketing. The power grid marketing urgently needs to improve the power time-sharing metering ability, volume and price clearing and

intelligent level of electricity charge accounting, as well as the risk prevention ability of electricity charge recovery.

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