Electricity Marketing Strategy Based on Demand Side Management

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Abstract. The new normal state of the development of national economy puts forward higher requirements to the development of China’s electric power. Power companies have not really established the concept of market competition and service awareness. Demand side management refers to management activities carried out by the enterprises an effective incentive to reduce electricity consumption and electricity load through improving the efficiency of electricity utilization of users and improving the way of using electricity. Based on the demand side management theory, this paper analyzes the marketing strategy of the existing electricity market and puts forward the power market marketing strategy based on demand side management according to the change of the new situation.

Introduction

Electricity demand side management is based on market demand, with the focus on optimizing the energy consumption structure, through use of power demand side management technology to improve the proportion of electricity in the terminal energy consumption. Firstly, demand side management emphasizes working together with the users to improve the efficiency of electricity utilization of the terminal, without reducing the users’ productivity and production level, and emphasizes achieving direct economic benefits on the basis of increasing the efficiency of electricity utilization. Secondly, it emphasizes the establishment of partnerships with users. Thirdly, it emphasizes energy services based on the interests of users. With the deepening of the reform of the power industry characterized by the separation of plant and network, the establishment of regional power market and phased tension of overall surplus, the lower and lower load rate, and more and more peak valley difference of electricity supply situation, it has become an urgent problem to be studied and solved that how to research and develop electricity market marketing strategies and specific implementation plan to further develop electricity market to ensure the efficient and reasonable power consumption of all types of users and achievement of optimal allocation of resources based on the demand side management concept, and at the same time to improve users’ electricity utilization efficiency and economic benefits of power grid operators.

Power Demand Side Management Theory

Demand Side Management (DSM) refers to electricity consumption management activities of reducing electricity consumption and power demand by improving the electricity use efficiency of the terminal and electricity consumption method, and completing function of general electricity utilization to achieve the purpose of saving energy and protecting the environment, realizing low cost and enhancing the power service. Current DSM activities include load management and energy efficiency management.

Load Management

Load management refers to that based on the load characteristics of the power system, power enterprises in a special way, reduce the users’ load peak of demand for electricity consumption to the load trough, so that power demand at different times can be reasonably distributed to improve
the use efficiency of power equipment and the economy of power system operation at trough. Load management is more mature in the use of China’s power companies, and the main ways are cutting peak, filling valley and load transfer.

**Energy Efficiency Management**

Energy efficiency management is improve power efficiency and reduce power consumption through changing the users’ consumption concept, and encouraging users to use more energy-efficient equipment. Energy efficiency management has two forms of direct electricity saving and indirect electricity saving. Direct electricity saving is to save electricity with the use of advanced technology and scientific management methods, and indirect electricity saving is to save electricity through the improvement of management and adjustment of the economic structure with methods of control and adjustment.

**Overview of Electric Power Marketing**

The electricity market is a general term for the organizational structure, operation management and operation planning of a new type of power industry after the reorganization of traditional monopoly power industry and the introduction of industry competition mechanism. Electricity marketing refers to a series of market-related business activities of the power enterprise in variational market environment which aims at satisfying people’s electric power consumption demand, providing electric power products and corresponding services to meet the consumers’ needs to achieve enterprises’ target to develop new markets and occupy the market. At present, the domestic electric power market marketing strategy mainly includes time-sharing electricity price strategy, strategy of staggering peak of electricity utilization and orderly electricity utilization strategy.

**Time-Sharing Price Strategy**

Time-sharing price strategy aims at large and medium-sized industrial and mining enterprises in the implementation of peak and valley electricity prices, through the adjustment of production plans for some enterprises and making full use of peak-valley price policy, on the one hand to save the costs of production, on the other to avoid peak period of the electricity utilization, reducing the grid pressure in load peak to protect the safe operation of power grids. Many places in the implementation process have not met the expectation of carrying out peak and valley electricity prices, mainly shown as the increasing of electricity price of enterprises and the total fees. About the reasons for the above-mentioned problems, on the one hand publicity work is not done well, due to the short-term implementation of peak and valley electricity price, most companies do not understand the peak-valley price policy and do not adjust production plan according to peak-valley price; on the other, electricity utilization of the industrial enterprises in some areas account for a smaller proportion, so the implementation effect is less obvious.

**Strategy of Staggering Peak of Electricity Utilization**

Strategy of staggering peak of electricity utilization is to transfer partial load in the peak period of electricity utilization to trough of electricity utilization through the administrative, technical, economic and other means based on the characteristics of periodic fluctuations of power grid load, so as to reduce load drop of power grid in peak and valley period, balance grid load, improve the utilization rate of power supply and generation equipment, optimize the allocation of resources, and improve the economy and security of power grid. When there is imbalance between power grid load and power supply capacity, and the system requires limited load, the power supply enterprises should force power consumption through staggering peak.

Strategy of staggering peak of electricity utilization needs to divide the customers into continuous production customers and non-continuous production customers. For those enterprises which need continuous production, because of production characteristics, the production process must be carried out for a long time without interruption, or if there is interruption, it will bring economic loss to the whole product manufacturing or reduce the product output and quality. So strategy of
staggering peak of electricity utilization in its implementation process will inevitably lead to losses for the above-mentioned enterprises.

**Orderly Power Supply Strategy**

Orderly power supply refers to that combine the electricity demand of enterprises with the medium and long-term power balance forecast of the power supply enterprise to do well in user side demand management, do well in load monitoring, especially when it is in the tight power supply, and supply the electricity to customers in an orderly manner, to ensure the electricity utilization of people’s livelihood and important customers, and do well in the peak-shifting arrangements of the other companies to avoid large-scale power outages and the impact of power system security.

**Marketing Strategy of Power Market Based on Demand Side Management**

**Perfect the Current Peak-Valley Pricing Strategy**

At present, a common phenomenon in China’s electricity market is that when electricity utilization is concentrated, the electricity market supply is in shortage, and on the contrary, while it is in peak and valley period of electricity utilization, the electricity is excess. Therefore, there is a large difference between the peak of electricity consumption and the valley of electricity consumption. The time of duration in peak of electricity consumption is relatively short. However, the way of increasing the generating capacity by adding the generating set is neither economical nor practical. The existing peak-valley time-sharing pricing strategy implemented in our country, can alleviate electricity utilization pressure in the peak period to some extent, but on the whole, the enterprise cost reduction is not obvious, business response is not positive, and electricity consumption has not been decreased, so there is limited effect for energy saving. So when performing the demand side management, and making peak-valley time-sharing price, market-oriented mechanism should be adopted according to zonality, seasonality and time-dependent characteristics of the power consumption. Price strategy should be fully used to guide the electricity enterprises to transfer their production and management to the peak and valley in the peak period of electricity consumption.

**Establish Energy Efficiency Management Mechanism and Encourage the Development of Green Energy and Energy-Saving Technologies**

The government should establish energy efficiency management mechanism to the power supply enterprises and electricity enterprises to encourage the development of green energy of power supply enterprises, and to encourage electricity enterprises to promote energy conservation work. In the long run, the government should adopt administrative means and economic means, especially through economic means to increase the development of green energy of power supply enterprises, and to increase efforts to replace coal with electricity, replace oil with electricity, and replace gas with electricity. Encourage enterprises to adopt energy-saving work to ease the social electricity pressure.

**Actively Expand the Residential Electricity Market Cultivation, Especially Farm Electricity Market**

Residential electricity market is the market with positive and steady growth, power supply enterprises should actively expand cultivation efforts of the residential electricity market: on one hand, promote the construction of urban residents electrification demonstration area, and strengthen cooperation with real estate agent and household electrical appliance enterprises, to improve popularity rate and usage rate of residential electrical equipment. On the other, promote the construction of urbanization of rural residents living electricity utilization through new rural construction, and enhance power transmission capacity through the transformation of rural power grids to fully meet the market demands of electricity utilization in new rural areas.
Summary
At present, the power supply and demand situation has undergone great changes, the power companies must follow the laws of market economy to adjust their business strategy, facing market and integrating into market, and develop enterprise marketing strategy according to market demand. Based on the analysis of demand-side management theory, this paper analyzes the current marketing strategy of domestic electric power market, and then on this basis, this paper puts forward suggestions for improvement on the marketing strategy of electric power enterprises with the knowledge of demand side management.

Reference