

Study on the price-setting method for reduced load value under monopoly electricity market — an example of Taiwan

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Abstract

It has been essential that the effective and appropriate demand side management to be an instrument for operation in electricity industry, in which the way of reducing and transferring electric load during those load periods has been regarded as the most important. It is, therefore, crucial to set a price, which properly reflects the market value of this reduced load, to achieve a successful management. Following by the electricity market liberalization, various countries apply market-bidding model through market power to set this price. We take the U.S. as an example that widely used demand response in power system is thus an effective application.

However, under monopoly electricity market, to set the market price of reduced load by undertaking demand response or market-bidding model is not an easy task. There is a necessity to design a feasible price-setting method to resolve this difficulty. With this objective, this study bases on the concept of “avoidable cost” and the principle of “economic dispatch” together with the empirical evidence on information of power system dispatch and electric cost in Taiwan to establish a practical method. In addition, through the research, we can find out the reasonable price that power company should compensate the customers under different electric using time or various load level.

Key words: price-setting method, reduced load value, avoidable cost, economic dispatch