

***Abstract: Strategic Bidding for Load Shedding in Microgrid using Multiagent Learning Approach***

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**Abstract**

When a power imbalance is by supply shortage in islanded microgrid operation, load shedding is used as a method to solve the imbalance. Since load shedding restricts the use of electricity, it is a critical problem in microgrid operation. Especially, in multiagent-based microgrid operation in the power market environment, load shedding should be dealt with autonomously by agents. For this, agents should have effective strategies for the process. In this paper, we employ the Q-learning algorithm to develop an optimal bidding strategy for loads competing for the load-shedding process based on agents. We propose a bidding strategy to maximize the profit of loads in a long run and load satisfaction ratio. To evaluate the performance of the proposed bidding strategy, a numerical analysis is performed.

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