

国家重点基础研究项目

微网并网时的经济运行研究

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摘要:

针对微网并网期间的经济运行问题, 建立了微网系统的经济性模型。该模型不仅考虑了热电冷联产系统的发电特性, 而且计及了分时电价的影响和潮流双向流动时产生的电能交易问题。选取某具体微网设计案例的典型日负荷数据进行优化计算, 求解出各个微源的最优出力, 给出了该算例的经济运行方案。根据仿真结果总结了微网并网经济运行的特性, 表明该模型用于分析微网经济运行特性是正确、有效的。

关键词:

Research on Economic Operation of Grid-Connected Microgrid

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Abstract:

An economic model of microgrid system is built to solve the economic operation problem under the connection of microgrid with power grid. In this model not only the generation characteristics of combined cooling, heating and power production system are considered, but also the influence of time-of-use price and the electric energy transaction occurred under the bi-directional power flow are taken into account. The typical daily load data of a design case for a concrete microgrid network is selected to carry out optimization calculation and the optimal output of each micro-source is solved, then the economic operation scheme of this case is given. Based on simulation results the economic operation characteristics of grid-connected microgrid are summarized. The results also show that it is correct and effective to use the proposed model to analyze economic operation characteristics of microgrid.

Keywords:

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