

电力市场

计及机组爬坡速率约束的发电商竞价策略

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摘要

将发电商竞价决策表达成二层规划问题, 上层为发电商利润最大化, 下层为动态经济调度。发电商利润最大化问题采用随机惯性权重的粒子群优化算法完成, 动态经济调度采用二次规划方法完成, 由此形成二层规划交替求解。在此基础上, 通过算例仿真分析了发电商依据地理位置和机组对负荷变化响应能力的差异来调整竞价策略的机理。

关键词

[电力市场; 竞价策略; 二层规划; 粒子群算法](#)

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Analysis on Generation Companies' Bidding Strategy Taking Unit Ramp Rate Constraints Into Account

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Abstract

In this paper the bidding strategy of generation companies is expressed as a bi-level programming problem, in which the upper one is the profit maximization of generation company and the lower one is dynamic economic dispatching. The profit maximization of generation companies is solved by the particle swarm optimization based on stochastic inertia weight method; the dynamic economic dispatching is solved by quadratic programming (QP) method, from this the two programming problems are alternatively solved. On this basis, by means of simulation of calculation example, the mechanism of adjusting bidding strategy by generation companies according to their geographic position and the differences among their ability to response load variation is analyzed.

Key words

[electricity market; bidding strategy; bi-level programming; particle swarm optimization](#)

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