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电力市场

基于节点电价的阻塞管理理论在华北电网的应用

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摘要

介绍了以节点电价为基础的市场模型在我国区域电力市场设计中的初步应用成果。在建立华北电网模型及确定电厂竞价价格时引入了安全约束经济调度，并对华北电网节点电价市场进行了仿真计算。算例的设计模仿了中国电力市场改革逐步放开价格竞争的过程，对不同模式下的电网安全、节点电价、系统运行费用、系统阻塞费用进行了分析比较，研究了基于节点电价的阻塞管理理论在华北电网的应用效果。

关键词

电力市场；节点电价；阻塞费用；运行费用；安全约束；影子价格

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Application of Location Marginal Price Based Congestion Management Theory in North China Power Grid

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Abstract

In this paper the preliminary results of applying locational marginal pricing (LMP) based market model to regional electrictiy market design in China are presented. The security constrained economic dispatching is led in the establishment of North China power grid model and the determination of bidding price of power plants, and the simulation and calculation of LMP market of North China power grid are carried out. The design of the calculation example imitates the gradually unloosening process of price competition in Chinese electricity markets; the power network security, LMP, operation cost of power system and congestion cost of power system are analyzed and compared; and the effect of applying the LMP based congestion management theory to North China power grid is researched.

Key words

electricity market；locational marginal price (LMP)；congestion cost；production cost；security constraints；shadow price

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