Abstract

Congestion cost allocation is an important issue in congestion management. This paper presents a genetic algorithm (GA) to determine the optimal generation levels in a deregulated market. The main issue is congestion in lines, which limits transfer capability of a system with available generation capacity. Nodal pricing method is used to determine locational marginal
price (LMP) of each generator at each bus. Simulation results based on the proposed GA and the Power World Simulator software is presented and compared for the IEEE 30-bus test system.

Reference

Congestion Management using Genetic Algorithm in Deregulated Power Environments

  - http://www.powerworld.com

Index Terms

Computer Science Power Systems

Key words

Congestion management nodal pricing
deregulated power systems

Genetic algorithm

optimal bidding strategy