عنوان مقاله:

Optimal Placement of Distributed- Generation to Reduce Energy Cost in Reconstructed Electricity Market

محل انتشار:

سومین کنفرانس سراسری نوآوری های اخیر در مهندسی برق و کامپیوتر (سال: 1395)

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خلاصه مقاله:

This article aims to study the effect of Distributed Generation (DG) on the price of energy in reconstructed energy market. System line congestion is one of the most important limiting competition factor and increased energy price in reconstructed electricity market. Therefore, optimal use of DG can be effective in congestion management and reduced cost of system. This article proposes a system cost-based method to place DG in accordance with optimal power distribution. The optimal locations for the placement of DG are defined based on LMP in the form of Lagrange coefficient in active power distribution in each bus. Another index used for the optimal placement of DGs is Customer Payment (CP) index obtained from the multiplication of LMP by bus load for each bus. After the selection of optimal bus to place DG, the optimal size is obtained by minimizing system cost index and considering system congestion constraints by harmony search algorithm. Mentioned indices evaluate the system in two working areas. At the end, the optimal index was introduced.

کلمات کلیدی:

congestion management, LMP, payment index

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