عنوان مقاله:

Efficient Placement of DG Units in Distribution Networks Using DEA Ranking of Proper Busses

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خلاصه مقاله:

In this paper, we applied the Data Envelopment Analysis (DEA) ranking method to have efficient placement of Distributed Generation (DG) in distribution network. In this regard first an analytical method to find the optimal size of DG in the network is used to reach the lowest possible losses. In this paper, benchmarks such as improvement of voltage profile, reducing energy not supplied value (as an index of reliability), reducing environmental pollution, and values related to the purchase and installation costs of DG equipment in each busses for selecting the appropriate DG location are considered, in addition to the network loss reduction. This method has been used because the loss reduction of whole the network will not be a complete criteria for selecting the best location to install DG, The necessarily node which has the highest reduction in power losses cannot be considered suitable node for the installation of DG. Therefore we used DEA to determine the most effective location for DG placement. The proposed method is implementation over the network of ۳۳ buses and the results are presented. GAMS software is used for the simulation results extraction.

کلمات کلیدی:

Efficient Placement, Mehdi Jalali, en, distributed generation, Tabriz University, Data Envelopment Analysis and Ranking, Saeed Abapour, Kazem Zare

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