عنوان مقاله:

Optimal DG Allocation by Extending an Analytical Method to Minimize Losses in Radial Distribution Systems

محل انتشار:

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خلاصه مقاله:

This paper presents an analytical algorithm for proper single Distributed Generation allocation in distribution systems with regard to DG1 power factor effect, in order to minimize the exact losses. this method is extended of the sensitivity method by considering DG power factor and achieving and driving a new analytical approach. The algorithm is based on exact loss formula, and by extending these formula and considering DG power factor, assess active and also reactive power generation. Therefore DG power factor must be defined. The proposed algorithm is tested on a 33 bus test feeder to demonstrate the accuracy and verification of the method. Simulation Results obtained from the proposed methodology are compared with the common method that calculates only active power generated by DG with unity Power Factor, and proposed method. The power loss in proposed method is lower and the DG size is smaller

کلمات کلیدی:

Distributed generation, optimal placement, power losses, DG power factor, sensitivity factors,voltage profile improvement