عنوان مقاله:

Optimal Placement of DGs in Distribution System including Different Load Models for Loss Reductionusing Genetic Algorithm

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خلاصه مقاله:

Distributed generation (DG) sources are becoming more prominent indistribution systems due to the incremental demands for electrical energy. Locationsand capacities of DG sources have great impacts on the system losses in adistribution network. This paper presents a study aimed for optimally determiningthe size and location of distributed generation units in distribution systems withdifferent load models. The objective is to minimize network power losses. Theimpacts of DG model on locating and sizing of DG are also presented consideringdifferent voltage dependent load models. Also, different types of customers such asindustrial, residential, and commercial loads are considered for load modeling. Theoptimization problem has been solved using genetic algorithm. For simulationpurpose, this algorithm has been executed on 33-bus and 69-bus test systems.Results show that type of DG modeling and load modeling has considerable effecton determination of the optimum siting and sizing of DGs. Also, DGs installation inoptimum size and location has considerable effect on loss reduction and voltageimprovement of distribution system.

کلمات کلیدی:
Distributed Generation, Load Model, Genetic Algorithm, Loss Reduction

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