

GENETIC ALGORITHM BASED DISTRIBUTED GENERATOR PLACEMENT IN UNBALANCED DISTRIBUTION SYSTEM

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ABSTRACT

The Distributed Generators (DGs) have created a challenge and an opportunity for developing various novel technologies in power generation. The proposed work discusses the primary factors that they have lead to an increasing interest in DGs. DG reduces line losses, increases system voltage profile and hence improves the power quality. This paper proposes a novel methodology for finding the optimal size and location for installation of DG in Unbalanced Radial Distribution Systems (URDS). Optimal location of DG is determined by using voltage index analysis and Genetic Algorithm (GA) is used for finding the optimal sizing of the DG. The objective function formulated is to minimize the power losses in a system considering different system constraints. The effectiveness of the proposed method is illustrated with 25 bus and IEEE 37 bus unbalanced radial distribution systems.