

عنوان مقاله:

The Importance of Load Modelling in the Simultaneous Placement of Distributed Generation and Capacitor Banks

محل انتشار:

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خلاصه مقاله:

In recent years, capacitive and distributed generation sources as reactive power compensation and active power producers are useful components for increasing the efficiency of the distribution system. By the increase using in load and transmission and distribution costs, distributed generation and capacitor banks are allowed to provide electricity to consumers at the cheaper price and reduce losses, improve voltage profile and network benefit. In this article, we tried to optimize the location and size of distributed generation resources and capacitor banks with the HSS algorithm (Hyper-Spherical Search) Using the technical and economic status of the distribution network. To approach the load modeling, the fact of the daily and annual curves has been used, so that the load is not constant and changes over time. Since the active and reactive power consumption is dependent on the voltage of the load proportional to the load type (residential, commercial and industrial). Therefore, this paper uses voltage dependent load and load curve model and will prove its importance in the optimization process. The time effect on network variable costs (network losses and maintenance instruments) from the concepts of inflation and interest rates is taken into consideration. The simulation has been carried out for 4 years with consideration of the increase in annual load size.

کلمات کلیدی:

Load curve, Distributed generation sources, Capacitor bank, Load model, Inflation rate, Interest rate

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