

عنوان مقاله:

Utilization planning of distributed generation sources in the micro grid using the Ant colony algorithm

محل انتشار:

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خلاصه مقاله:

The use of distributed generation resources is increasing to improve reliability in power systems. Benefits such as reducing network losses and pollution have increased the focus on these resources. The presence of distributed generation sources has led to the discussion of grid grids. A micro grid is a set of distributed generation units and storage devices, along with a set of loads, which, because of intelligent control, behave like a load or generator from the viewpoint of the main grid. In this paper, the design of distributed generation sources for a micro grid that is comprised of the IEEE 33-bus network is studied. For the planning of utilization of distributed generation sources, the consumption of loads is considered as a variable over a period of 24 hours and a 24-hour program for the amount of production of various sources and storage devices with the goal of minimizing network losses is provided. In this paper, an ant colony algorithm is used to solve the optimization problem. Finally, the results indicate the improvement of the voltage profile and network losses, and also the cost effective of the micro grid connection to the main network.

کلمات کلیدی:

Distributed generation resource, Utilization planning, Ant colony

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