

عنوان مقاله:

Microgrids: A brief review of architectures and Operation

محل انتشار:

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تعداد صفحات اصل مقاله: 8

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خلاصه مقاله:

This paper presents A brief review of architectures and Operation in microgrids. A microgrid is a decentralized group of electricity sources and loads that normally operates connected to and synchronous with the traditional wide area synchronous grid (macrogrid), but is able to disconnect from the interconnected grid and to function autonomously in "island mode" as technical or economic conditions dictate. In this way, microgrids improve the security of supply within the microgrid cell, and can supply emergency power, changing between island and connected modes. Another use case is the off-grid application, it is called an autonomous, stand-alone or isolated microgrid. These microgrids are best served by local energy sources where power transmission and distribution from a major centralized energy source is too far and costly to execute. They offer an option for rural electrification in remote areas and on smaller geographical islands. As a controllable entity, a microgrid can effectively integrate various sources of distributed generation (DG), especially renewable energy sources (RES). Control and protection are difficulties to microgrids, as all ancillary services for system stabilization must be generated within the microgrid and low short-circuit levels can be challenging for selective operation of the protection systems.

کلمات کلیدی:

microgrids, renewable energy, distributed generation, island and connected modes

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