Distributed generation voltage synchronization when the state changes from islanding to grid connected

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Abstract:

In this paper a control scheme for grid-connected operation mode and the island state of distributed generation is presented. In normal conditions, every inverter DG system in micro-grids to supply a Preset power, normally operate in a constant current control mode. When micro-grids removed from the network, DG inverter of each system must recognize the island and change position to voltage control mode. In this situation micro-grids supply the fixed voltage to local load. In this paper, a synchronization algorithm is provided for reconnection to the network. The results of the simulation DG, network controllers, and the islanding is provided in MATLAB Simulink.

Keywords: Distributed Generation(DG), Reconnection, Islanding, Sychronization