

عنوان مقاله:

Investigating Battery Energy Storage System for Frequency Regulation in Islanded Microgrid

محل انتشار:

سومین کنفرانس منطقه ای سیرد (سال: 1393)

تعداد صفحات اصل مقاله: 5

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خلاصه مقاله:

Nowadays, with increasing penetration of distributed generations (DGs) in electricity networks, Microgrids (MGs) have been created. These MGs can operate in grid connected or islanded mode. Islanded operation of a MG is still a challenging topic. The main issue in off-grid operation is voltage and frequency control of MG. Energy storage system (ESS) can play an effective role in this situation. In this paper, battery energy storage system (BESS) is used to improve the performance of voltage and frequency in off-grid mode. An appropriate control strategy for BESS is defined and used in order to regulate the voltage and frequency of an islanded MG. To show the effectiveness and accuracy of the proposed method, the control strategy is applied to a 0.4 kV benchmark MG in MATLAB/Simulink.

کلمات کلیدی:

Battery energy storage system, Islanded operation, Microgrid, Voltage and frequency control

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