عنوان مقاله:

An Improved Under-Frequency Load Shedding Scheme in Distribution Networks with Distributed Generation

نویسندگان:

Behnam Mohammadi-Ivatloo - *Faculty of Electrical and Computer Engineering, University of Tabriz, Tabriz, Iran*

A. Mokari - *Faculty of Electrical and Computer Engineering, University of Tabriz, Tabriz, Iran*

H. Seyedi - *Faculty of Electrical and Computer Engineering, University of Tabriz, Tabriz, Iran*

S. Ghasemzadeh - *Faculty of Electrical and Computer Engineering, University of Tabriz, Tabriz, Iran*

خلاصه مقاله:

When a distribution network consisting of Distributed Generations (DGs) is disconnected from upstream network, the system may be exposed to severe power imbalance. In order to prevent the damage of power plants, frequency relays operate and remove DGs from the network. In contrast to traditional methods, the main objective in new methods is to keep DG units in service in the islanded distribution system. Under-Frequency Load Shedding (UFLS) is one of the most important protection systems, which is the last chance for avoiding a system blackout following severe disturbance. This paper dealt with an adaptive UFLS method and considered the priority of loads to be shed, depending on the intensity of event, and loads look up table built by Rate of Change of Frequency of Loads (ROCOFL) indices based on the frequency of centre of inertia (fCOI). Different loads were shed depending on the event type diagnosed by measuring the initial Rate of Change of Frequency (ROCOF) in the method. The proposed UFLS method can stabilize the frequency of the distribution system in islanding mode by shedding sufficient loads. The simulation results confirmed the advantages of the methods in comparison to other proposed algorithms.

کلمات کلیدی:

Distributed generation, Load shedding, Frequency control, Islanded oper

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