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Islanding Detection of Wind Turbine by Rate of Change of Frequency (ROCOF) and Rate of change of Power (ROCOP) Method

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Abstract : Recently the use of renewable sources has increased, these sources include fuel cell, photo voltaic, and wind turbine. Islanding occurs when one portion of grid is isolated from remaining grid. Use of the renewable sources can provide continuous power to isolated portion in islanding condition. One of the common renewable sources is wind generation using wind turbine. The efficiency of wind generation can be increased in combination with conventional sources. When islanding occurs, few parameters change which may be frequency, voltage, active power, and harmonics. According to large change in one of these parameters islanding is detected. In this paper, two passive methods Rate of Change of Frequency (ROCOF) and Rate of change of Power (ROCOP) have been implemented for islanding detection of small wind-turbine. Islanding detection of both methods have been simulated in PSCAD. Simulation results show at different islanding inception angle response of ROCOF and ROCOP.

Keywords : islanding, adopted methods, PSCAD simulation, comparison
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