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(57) Abstract :
Abstract Nowadays renewable energy sources are used by most of the distributed generations. Because of their blessings like clean nature, pollution free, cost free the utilization of them are increasing in life style. The key drawback of such renewable distributed generation is associated with unintentional islanding development. Islanding will causes in the distributed generation due to unintentional opening of main grid. Islanding will causes dangerous conditions to equipments and apparatus connected with it. Thus, it is needed that as per IEEE 1547 and UL 1741 standards within 2 seconds we have to detect the islanding. In a new hybrid islanding detection method is presented with low frequency current harmonic injection and over/ under frequency relay for inverter based distributed generation. A low frequency current harmonic is injected into the system through the q controller of the grid side controller. The injected low frequency current component causes the system frequency to deviate during islanding. It evaluates the performance of this hybrid ROCOF relay when load and generation are matched and successfully detecting the islanding and also clearly differentiates between islanding and non islanding events for mixed types of RDGs connected to the grid. The test system results, are carried out in MAT LAB/Simulink environment shows the strength of this method.

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