Overcurrent Protection Coordination in Distribution Grid Contains Distributed Generation (DG) Resources

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In this thesis, second grade programming algorithm along with nonlinear programming is used. Coordination problem between relays and also creation of coordination between downstream and upstream network in the case of occurrence of fault in different part of system are examined, as well as effect of place and different capacities of diffused production in the studied power system in this thesis is studied. Studied system is a standard power system IEEE30. Main aim at the time of error is rapid diagnosis of error and error removal in the shortest time which again reinforces the importance of coordination relays in the downstream and upstream distribution network. This type of short circuit which in these simulations is applied to power system , is a three phase short circuit. In fact, we tried to considered the results for the worst-case, conducted simulation is performed by the business software PSCAD/ EMTDC and programming part for coordination of relays is used of MATLAB software.

Keywords : Key words: the relay of directional over current, diffused productions , coordination of relays ,loop distribution network