

**POWER DISTRIBUTION NETWORK VOLTAGE PROFILE
ENHANCEMENT WITH THE PRESENCE OF RENEWABLE DG**

Thesis is presented in partial fulfillment for the award of the Bachelor of Electrical
Engineering (Hons)

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ABSTRACT

This thesis presents minimum voltage improvement of power distribution network with the presence of renewable energy. The study involves the utilization of sensitivity analysis as an analysis tool of determination of renewable DG installation location in the distribution system. However, only two types of renewable DG will be presented in this thesis which are solar DG and wind DG. Then, an optimization technique so called as Evolutionary Programming (EP) is used to determine the optimal size of the renewable DG based on minimum voltage enhancement. This is to ensure that the minimum voltage of the system could be improved. The simulation will be carried on the IEEE 15 Bus Radial Distribution System. Response for minimum voltage profiles were observed during with or without renewable DG. Next, Results obtained from the proposed techniques revealed that the voltage of power distribution network can be improved with the presence of renewable energy.

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