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(57) Abstract :
The main purpose of this present invention is to establish suitable RES devices for expanding the microgrid process in urban or rural areas using microgrid planning modules. The main design of our invention discloses the processing system for microgrid expansion, which comprises the microgrid planning modules and central decision-making unit. Initially, the present grid network is given as input to the microgrid planning modules, which include four modules. The demand forecasting module detects the required energy level, and the uncertainty prediction module predicts the uncertainty power level. After that, the power quality issues detection module detects power quality issues, and the congestion detection module detects congestion of the microgrid expansion area. Then, this method decides to establish the RES devices based on the microgrid planning modules and environmental characteristics. Finally, this method checks the size of RES, the perfect location, and chooses RES devices suited to expand the microgrid plan. [To be published with Figure.2]

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