

Considering Effect of Wind Turbines in the Distribution System

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Abstract : In recent years, the high penetration of different types of renewable energy sources (RESs) has affected most of the available strategies. The main motivations behind the high penetration of RESs are clean energy, modular system and easy installation. Among different types of RESs, wind turbine (WT) is an interesting choice referring to the availability of wind in almost any area. The new technologies of WT can provide energy from residential applications to wide grid connected applications. Regarding the WT, advantages such as reducing the dependence on fossil fuels and enhancing the independence and flexibility of large power grid are the most prominent. Nevertheless, the high volatile nature of wind speed injects much uncertainty in the grid that if not managed optimally can put the analyses far from the reality. The aim of this project is scrutiny and to offer proper ways for renewing distribution networks with envisage the effects of wind power plants and uncertainties related to distribution systems including wind power generating plants output rate and consumers consuming rate and also decrease the incidents of the whole network losses, amount of pollution, voltage refraction and cost extent. To solve this problem we use dual point estimate method. And algorithm used in this paper is reformed bat algorithm, which will be under exact research furthermore the results.

Keywords : order renewal, wind turbines, bat algorithm, outspread production, uncertainty

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