Abstract

Wind is one kind of free energy and this “must-take” wind power generation is integrated into the system operation. The optimal power flow (OPF) problem with integration wind energy was explored and exploited in this paper. This paper presents the impact integration wind energy on different performance parameters of power systems such as the total generation cost, voltage profile, power flow and power losses, by optimally integrate the wind farm in power systems. The modified IEEE 30 system with six thermal generating units and two wind farms. Several scenarios were conducted to determine the impact of single and multiple wind farm on the performance of the IEEE 30 bus system. In this paper, using programming language (Matlab) and PowerWorld software Version 19 to get the results.

References


Index Terms

Computer Science

Circuits and Systems

Keywords

Optimal Power Flow, wind power, linear programming, voltage profile, PowerWorld.