Evaluation of the Electric Vehicle Impact in Distribution System

Authors : Sania Maghsodloo, Sirus Mohammadi

Abstract : Electric Vehicle (EV) technology is expected to take a major share in the light-vehicle market in the coming decades. Transportation electrification has become an important issue in recent decades and the large scale deployment of EVs has yet to be achieved. The smart coordination of EV demand addresses an improvement in the flexibility of power systems and reduces the costs of power system investment. The uncertainty in EV drivers' behaviour is one of the main problems to solve to obtain an optimal integration of EVs into power systems Charging of EVs will put an extra burden on the distribution grid and in some cases adjustments will need to be made. The stochastic process of the driving pattern is done to make the outcome of the project more realistic. Based on the stochastic data, the optimization of charging plans is made.

Keywords : electric vehicles (PEVs), smart grid, Monticello, distribution system
Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development
Conference Location : Chicago, United States
Conference Dates : December 12-13, 2020