

عنوان مقاله:

Smart Distribution Network Expansion Planning Considering Communication Infrastructure

محل انتشار:

ششمین کنفرانس منطقه ای سیرد (سال: 1397)

تعداد صفحات اصل مقاله: 4

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خلاصه مقاله:

This paper presents a novel model for cost-based smart distribution network expansion planning (SDNEP) in the presence of electric vehicles (EVs) considering communication infrastructure. EVs can participate in different applications such as peak shaving, frequency regulation and reliability improvement. Some of these applications require real-time information and some others need daily information. Due to non-stationary location and uncertainty related to EVs, designing of an appropriate communication infrastructure has great impact on improving the capability of smart grid to accommodate different kind of operational scheduling. Prior to expansion planning, it is necessary to determine the expected applications of SG and conducts the investment to satisfy their requirements. In this paper, an off-line day-ahead dispatching model is developed and compared with real time dispatching strategy in different penetration level of EVs. This paper focuses on the designing of a vehicular network as well as conventional variables and parameters of DNEP. The effectiveness of the proposed model is demonstrated by applying to a typical distribution test system.

کلمات کلیدی:

.Distribution network; vehicle to grid; smart grid; communication infrastructure

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