

عنوان مقاله:

Impact of Electric Vehicles and Photovoltaic and Wind Generators on Distribution Grid

محل انتشار:

هشتمین همایش مهندسی برق مجلسی (سال: 1398)

تعداد صفحات اصل مقاله: 11

نویسندگان:

.Mostafa Eidiani - Department of Electrical Engineering, Khorasan Institute of Higher Education, Mashhad, Iran

.afrooz ghavami - Department of Electrical Engineering, Khorasan Institute of Higher Education, Mashhad, Iran

خلاصه مقاله:

Unreliability in continuous production poses challenges for deploying renewable sources in a real-time power delivery system. output intermittency, and reliability issues can be potentially addressed by employing suitable combination of the two RE sources technologies (PV and WT) together with the use of an energy storage system, such as battery energy storage system (BESS), as a type of power balancing medium. Different storage options could address this unreliability issue, but they consume electrical energy and create significant costs and carbon emissions. An alternative is using electric vehicles and plug-in electric vehicles, with two-way power transfer capability (Grid-to-Vehicle and Vehicle-to-Grid), as temporary distributed energy storage devices. In this paper, first the Benefits of two solar and wind resources is investigated by each other in a weak Low Voltage Distribution Grid and It is shown that these two resources together can eliminate the challenges of generating stochastic nature of renewable resources. Also, the behavior a weak power distribution grid at the Point of Common Coupling (PCC) in the presence of a photovoltaic generator, wind and electric vehicle has been analyzed. Finally, transient stability has been analyzed in different fault conditions. Simulative analysis is performed in the DIgSILENT Power Factory software.

کلمات کلیدی:

.electric vehicles (Vehicle-to-Grid), Integration of wind and solar system, Reactive power compensation

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/952249>

