

عنوان مقاله:

Modeling and Simulink Implementation of an isolated Wind Diesel System with BESS

محل انتشار:

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خلاصه مقاله:

In this paper we present modeling and Simulink Implementation of an isolated Wind Diesel Hybrid System (WDHS) which utilize a battery based Energy Storage System (BESS). The BESS consists of a battery and a power converter which performs the DC to AC conversion to interface the battery with an isolated grid. in order to have high power capability, low cost, durability due to improper use and no environmental issues, the best choice for WDHS is The Ni-MH battery. The modeling of the every part of the Hybrid System which consist a Diesel Generator (DG), a Wind Turbine Generator (WTG), the consumer Load, a battery Storage System and a Dump Load (DL) is presented and the performance of the is tested through dynamic simulation. Simulation results with graphs for the frequency and voltage of the Isolated Power System, active powers generated/absorbed by the different elements and the battery voltage/current/state of charge are presented for load and wind speed changes. The simulation results for the Battery/no Battery cases are compared and show a remarkable improvement in the system dynamics due to the use of the BESS.

کلمات کلیدی:

Wind Diesel Hybrid System, Energy Storage System, Dump Load

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