عنوان مقاله:

Mitigation of Voltage Sags in a Sample Distribution System Using Flexible D-STATCOM

محل انتشار:

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خلاصه مقاله:

This paper proposes a Flexible D-STATCOM (Distribution STATIC Compensator) and its new controller system, in IEEE 13-bus industrial distribution system, that be able to both mitigate all types of series faults (open-circuit or open conductor faults) and operate as a Distributed Generation (DG), when it supplies power to sensitive loads while the main utility source is disconnected (i.e. it is under islanded operating condition). Thus D-STATCOM operates same as a Flexible DG (FDG) and consequently, it is called Flexible D-STATCOM (FD-STATCOM). In this paper, the 12-pulse FD-STATCOM configuration with IGBT is designed and the graphic based models of the FD-STATCOM are developed using the PSCAD/EMTDC electromagnetic transient simulation program. The reliability and robustness of the control schemes in the system response to the voltage disturbances caused by series faults and islanded operating condition are obviously proved in the simulation results.

کلمات کلیدی:

Custom Power, FD-STATCOM, Voltage Sags, Energy Storage Systems, Test System, Islanding Condition