

Mitigation of power quality problems using series active filter in a microgrid system

ABSTRACT

Dynamic voltage restorer (DVR) is a series active filter device that is used to protect sensitive loads from power quality issues such as voltage sag, swell, harmonics or disturbances. This implies that the DVR is capable to mitigate power quality disturbances at load terminal. Harmonic is a major power quality problem polluting distribution network causing the end-user equipment to fail operating due to the occurrence of disturbances in voltage, current or frequency. This paper discusses on the DVR used as the proposed technique to mitigate the voltage sag and swell in a distribution network connected with energy storage system and mini-hydro turbine system.

Keyword: Dynamic voltage restorer; Power quality; Energy storage; Mini-hydro turbine system