

Application of inverter based shunt device for voltage sag mitigation due to starting of an induction motor load

ABSTRACT

This paper shows a study of the static synchronous compensator (STATCOM) behaviors for voltage sag mitigation to an induction motor. The proposed of STATCOM stability model is justified based on the basic operation characteristics of phase control strategies. The simulation of 6 pulses STATCOM based on voltage source inverter (VSI) using Matlab Simulink is presented to show its good performance under balanced voltage sag condition due to the motor starting. Experimental testing has been made by using thyristor firing board control (FS36M). The STATCOM response of compensated reactive power to the system during voltage sag has been shown. Finally simulation results and experimental results have been described and compared once and good performance has been obtained.

Keyword: Voltage sag mitigation; Induction motor; STATCOM