APPLICATION OF STATCOM TO MITIGATE VOLTAGE SAG

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ABSTRACT

The main objective of this research is to analyze the capability of STATCOM to mitigate the voltage sag due to starting of induction motor. The starting period of induction motor depends upon the factors such as, motor construction, its condition and its loading condition. Typically, the starting period is about 1 sec.; therefore there is a voltage sag in the supply voltage during this period. The solutions approached for compensation of voltage sag are either shunt injection of reactive current or series injection of voltage. The shunt injection of reactive current for voltage sag mitigation can be implemented by using custom power device like STATCOM. The setup of this circuit consists of inverter with capacitor in its dc side, coupling transformer, and a control system. The self commutate thyristor inverter has been used. Thyristor feature have very low losses, making them attractive devices to efficiently control very high currents and energies. The circuit is design and simulated by using Matlab/Simulink program.

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