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Improvement of Voltage Stability in EHV AC Transmission Line

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Abstract: *The fundamental principle of a STATCOM installed in a power system is the generation ac voltage source by a voltage source inverter (VSI) connected to a dc capacitor. The active and reactive power transfer between the power system and the STATCOM is caused by the voltage difference across the reactance. The STATCOM can also increase transmission capacity, damping low frequency oscillation, and improving transient stability. The STATCOM is represented by a voltage source, which is connected to the system through a coupling transformer. The voltage of the source is in phase with the ac system voltage at the point of connection, and the magnitude of the voltage is controllable. The current from the source is limited to a maximum value by adjusting the voltage. Mathematical modeling and analysis of static compensator (STATCOM) is presented in it. It explains the use of STATCOM for improvement of transient stability and power transfer*

Keywords: STATCOM, VSI, FACTS, BESS, TCSC

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