Abstract

This paper investigates the enhancement in voltage stability margin as well as the improvement in the power transfer capability in a power system with the incorporation of Fixed Capacitors, Static Synchronous Compensator (STATCOM) and Static VAR Compensator (SVC). A simple transmission line system is modeled in MATLAB/SIMULINK environment. The load flow results are first obtained for an uncompensated system, and the voltage and real and reactive power profiles are studied. The results so obtained are compared with the results obtained after compensating the system using Fixed Capacitors, SVC and STATCOM to show the voltage stability margin enhancement. The results obtained after simulation demonstrate the performances of shunt capacitor, SVC and STATCOM when connected to a system on the verge of unstability. All the simulations for the above work have been carried out using MATLAB (SIMULINK) software.

References

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Index Terms
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Keywords
Voltage Stability    Svc    Statcom    Fixed Capacitor    Facts    Active Power    Reactive Power.