Abstract

Voltage instability occurs in power systems when the system is unable to maintain an acceptable voltage profile under an increasing load demand and/or configuration changes. The operating conditions of the present day distribution systems are closer to the voltage stability boundaries due to the ever increasing load demand. This paper presents a new algorithm for optimal locations and sizing of static and/or switched shunt capacitors in order to enhance voltage stability in addition to improving the voltage profile and minimising losses. Test results on 33 and 69-node distribution systems reveal the superiority of this algorithm.

Reference


Optimal Locations and Sizing of Capacitors for Voltage Stability Enhancement in Distribution Systems


Index Terms

Electrical Power Systems

Key words

Optimal Locations Capacitors Voltage Stability