Abstract

The objective of power systems operation and planning in the interconnected power system is to maximize the social welfare through minimizing total generation costs. This paper presents a novel approach for optimal generation considering stability limits. The paper examines two approaches for optimal generation. The first approach is based on analyzing their shares in
increased load on system. The second approach is based on voltage stability consideration. An IEEE-6 bus test system is used to demonstrate the results. One of the modern power system analyzer MiPower software is used to model and solve the optimization problems involved and the MATLAB software is used to perform graphical representations through an interface between both programs.

Reference

- “Power Generation, Operation, and Control”, Allen J. Wood and Bruce F. Woollenberg., Wiley India (P.) Ltd., New Delhi. 2010

Index Terms

Computer Science

Power Systems

Key words

Generation shift factors

Participation factors

Re-Scheduling

Voltage instability