عنوان مقاله:

Security Constrained Reactive Power Scheduling Considering N-۱ Contingency of Transmission Lines

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خلاصه مقاله:

This paper presents a methodology for reactive power scheduling (RPS) of power system in the form of AC optimal power flow (AC-OPF) problem. The objective function is minimization of system total active power losses. The OPF optimally determines reactive power output of generating units and synchronous condensers, tap-changers ratio, shunt capacitor banks and reactors. The effect of tap-changer is modeled in the active and reactive power flow of transformer. The proposed method grantees secure operation of system in normal operating condition and also in contingency of transmission line outage. The validity of proposed method is studied based on IEEE RTS ۲۴-bus. Results show the capability of suggested AC-OPF for RPS of system in base case as well as contingency of single line outage.

کلمات کلیدی:

Reactive power scheduling (RPS), AC optimal power flow (AC-OPF), Active power losses, Tap changer, Contingency

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