ABSTRACT

The bigger a system power distribution make a many potential of disorder. Therefore an evaluation stability on the system power distribution make the exiting system can survive and back when distruption or after distruption.

The test system IEEE 30 *buses* modification represents data distribution system of electric power as database, a method of *Newton-Raphson,* a method of *RCF (Reactive Contribution Factor),* and the principle of a method of *LSF (Loss Sensitivity Factor)* is a effective methode for an optimalization in distribution system.

On this optimization, an additional *Capasitor* can incress a voltage profil and reduce a total losses as much as 1,21 % with 10 Mvar injection on *bus* 26 and 30. Then an additional *Distributed Generator* the system reduce a losses as much as 3,3 % with a *LSF* methode and 9,03 % used scenario 1.

Key Word : Equilibrium, *Newton-Raphson* Method*, RCF* Method*, LSF* Method, Voltage Profil, Losses, Capasitor, Distributed Generator