Abstract

In a deregulated power market, the optimum power flow (OPF) for an interconnected grid system is an important concern as related to transmission loss and operating constraints of power network. The increased power transaction as related to increased demand and satisfaction of those demand to the competition of generation companies (GENCOs) are resulting the stress on power network which further causes the danger to voltage security, violation of limits of line flow, increase in the line losses, large requirement of reactive power,
Congestion Management in Deregulated Power Market – a Review

danger to power system stability and over load of the lines i.e. congestion of power in system. It can be managed by rescheduling of generators or optimal location of distributed generation (DG) at minimum cost with minimum loss without disturbing the operating constraints. This paper reviews some of congestion management (CM) methods including the nodal pricing method, differential evolution (DE), addition of renewable energy sources, extended quadratic interior point (EQIP) based OPF, mixed integer nonlinear programming, particle swarm optimization (PSO), cost free methods and Genetic Algorithm (GA). Each technique has its own significance and potential for promotion of rescheduling of generators in a deregulated power system.

References


Index Terms

Computer Science
Power Systems
Keywords
Eqip  Facts  Opf  Minlp