Abstract

This paper deals with the AC power flow approximation has been used to calculate new real Power Transmission Congestion Distribution Factors (PTCDFs), considering the presence of an UPFC. These factors have been utilized to form the single and multiple zones for the congestion management. The UPFC has been optimally placed in the system based on the factors, called as Line Loading Distribution factor (LLDFs) as presented in this paper. An Ant Colony based OPF formulation has been suggested for congestion management including UPFC in the system model and its effectiveness has been established by observing the overall system performance improvement. The effectiveness of the proposed methods has been tested on 75-bus systems. The test results are also compared with the method suggested in previous papers.
References

- Dorigo M., Maniezzo V., Colorni A., Ant System, optimization by a colony of cooperating ants.
- Dorigo M., Maniezzo V., Coloni A., Ant System, optimization by a colony of cooperating

Index Terms

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Congestion Management  Aco-opf  Ptcdfs  Facts  Optimal Placement  Lldfs