

Economic Load Dispatch Multiobjective Optimization Procedures Using Linear Programming Techniques

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Summary

This paper outlines the optimization problem of real and reactive power, and presents the new algorithm for studying the load shedding and generation reallocation problem in emergencies where a portion of the transmission system is disabled and an AC power solution cannot be found for the overloaded system. The paper describes a novel and efficient method and algorithm to obtain the optimal shift in power dispatch related to contingency states or overload situations in power system operation and planning phases under various objectives such as economy, reliability and environmental conditions. The optimization procedures basically utilize linear programming with bounded variables and it incorporates the techniques of the Section Reduction Method and the Third Simplex Method. The validity and effectiveness of the algorithm is verified by means of two examples: a 10-bus system and the IEEE 30-Bus, six generators system

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