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Medium-term generation programming in competitive environments: A new optimization approach for market equilibrium computing

J. Barquín, E. Centeno, J. Reneses

Abstract— The paper proposes a model to represent medium-term hydro-thermal operation of electrical power systems in deregulated frameworks. The model objective is to compute the oligopolistic market equilibrium point in which each utility maximises its profit, based on other firms\' behaviour. This problem in not an optimisation one. The main contribution of the paper is to demonstrate that, nevertheless, under some reasonable assumptions, it can be formulated as an equivalent minimisation problem. A computer program has been coded by using the proposed approach. It is used to compute the market equilibrium of a real-size system.

Index Terms— No disponible / Not available

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