

A goal programming model for rescheduling of generation power in deregulated markets

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Abstract-

In deregulated electrical systems, production schedule for power plants is the result of an auction process. In the Spanish case, this schedule includes two main concepts: energy production (to be actually produced) and secondary reserve (to maintain available). The generation company faces the problem of converting energy schedule into a power schedule, respecting the reserve schedule as well as technical constraints, and trying to accomplish different goals: to minimise the production costs, to obtain smooth shapes for the power schedules and to optimise eventual compensation in schedules. A weighted goal mixed integer programming model with a real-size application to deal with this problem is presented.

Index Terms- Electricity markets, power generation dispatch, goal programming, integer programming, short-term scheduling

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