

Unit Commitment By Tabu Search

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Summary

An application of the tabu search (TS) method to solve the unit commitment problem (UCP) is presented. The TS seeks to counter the danger of entrapment at a local optimum by incorporating a memory structure that forbids or penalises certain moves that would return to recently visited solutions. New rules for randomly generating feasible solutions for the UCP are introduced. The problem is divided into two subproblems: a combinatorial optimisation problem and a nonlinear programming problem. The former is solved using the tabu search algorithm (TSA) while the latter problem is solved via a quadratic programming routine. Numerical results show an improvement in the solution cost compared to previously obtained results

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