NOVEL HYBRID BAT APPROACH FOR SECURITY CONSTRAINED UNIT COMMITMENT

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ABSTRACT

This paper presents a solution to (SCUC) security constrained unit commitment problem with an objective function defining equality and inequality constraints of the system. The objective of the problem will be solved using multiple optimization function with the constraints as power balance, spinning reserve, operating limits of real power, minimum up & down time, emission etc.. These are subjected to generate the solution for the problem by using hybrid BAT search algorithm. So, by this type of most economical operation of modern power systems allocates the optimal power generation from different units at the lowest cost possible there by meeting all the system Conditions. The performance of the suggested method is practiced in MATLAB platform and the results are assessed through 3-unit testing system.

KEYWORDS: BAT Algorithm, BAT - GA Algorithm, Constraints, Security Constrained Unit Commitment and Unit Commitment