ABSTRACT

The Unit Commitment Problem is to scheduling power production of electrical power generating units to meet a load demand on some period of time in order to get the most minimum production cost. The Unit Commitment Problem is optimization problem with mixed combinatorial and have a set of operational constraints with enormous dimension which is very comple x to solve.

There are several approaches that have been used to solve Unit Commitment Problem. In this paper the author uses Cat Swarm Optimization algorithm with binary as representation of solution and has been proved to be able to deliver solution with good optimum economic dispatch cost. In scheduling 4 units with 8 demand period the method deliver best solution with $74,808 production cost. Also with the right parameters setting, this method capable of delivering solution with average accuracy above 97% over every operational constraints. This shows the Cat Swarm Optimization is an appropriate method in solving Unit Commitment Problem.

Key Word : Unit Commitment Problem, Cat Swarm Optimization, Constarint