ABSTRACT

Unit Commitment is defined as a production scheduling of power generating unit of electricity at a certain period in accordance with power demand at that time in order to gain economies of generation costs. Unit Commitment optimization work is very significant, with many rules to play in planning the daily operation of power systems, especially within the framework of the arrangement of the power demand by consumers.

One method that can be used to complete the Unit Commitment problems is to use a genetic algorithm. Genetic algorithms are evolutionary algorithms that can be widely applied in reliability analysis. Genetic algorithm is an algorithm that is inspired by the theory of evolution and John Holland was first coined in 1975. Genetic algorithm is an algorithm that is suitable in solving optimization problems that are due to the flexibility and efficiency.

Weaknesses were found in genetic algorithms is premature convergence, a condition at the time of a population in genetic algorithm reaches a state where most of the operator operator no longer produce offspring of its parent. Then to overcome these problems, one of the method is to integrating the local search operator on genetic algorithms.

Key Word : Unit Commitment Problem, Electric Power Systems, Genetic Algorithm