

This thesis proposes a methodology for a multiple distributed generation scheduling of Provincial Electricity Authority system in Fang district. The main objectives of the scheduling optimization are to reduce losses and purchasing costs.

The proposed methodology includes two main themes, unit commitment and economic dispatch using priority list based on prices of electricity offered by each power plant. All procedures are developed in the format of application program that can be used for a power system with fuel constraint.

The work is conducted in three cases according to the amount of water in particular seasons, which is also the system fuel constraint. The comparisons of line losses in distribution system and purchasing cost between the proposed and the actual scheduling are demonstrated.

As the result of comparisons, the operation performed in three cases can bring about over two millions baht annual saving on purchasing cost. For the proposed scheduling, losses in the distribution system in both low and medium water level cases are far less than those of actual scheduling. However, during high water level the system losses slightly increase. In summary, the proposed operation will increase the over all efficiency of the power generation system.