

## C715949 : MAJOR ELECTRICAL ENGINEERING

KEY WORD: RECONFIGURATION / DISTRIBUTION SYSTEM / NEURAL NETWORK / HOPFIELD NETWORK

THONGCHAI MEENUAL : DISTRIBUTION FEEDER RECONFIGURATION FOR LOSS REDUCTION USING A NEURAL NETWORK. THESIS ADVISOR : ASST. PROF. Dr. BUNDHIT EUA-ARPORN, Ph.D., 145 pp. ISBN 974-636-243-7

This thesis presents a feeder reconfiguration to determine the switching status (ON/OFF) of all switching equipment for loss reduction. The Hopfield neural network theory has been applied to solve distribution system reconfiguration problems.

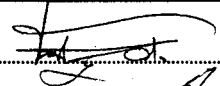
Researcher has analysed reconfiguration problems for different load levels, state of system before and after the reconfiguration, and a learning performance of the developed neural network. Two configurations comprising present radial network and a loop network, with all switches in the closed position, are used as an initial condition. A computer program to solve the problem was developed on 32 bits microcomputer using Borland C++ version 4.5

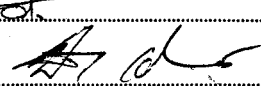
In this study, The test results from 10 nodes 16 nodes, and 32 nodes distribution system show that the developed method rapidly define a reconfiguration that reduce loss in system. In addition, the solution from the developed method is not depending on the initial reconfiguration.

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