CHAPTER 5

Conclusions and Recommendation

5.1 Conclusions

The development of wide area protection is very important protection in the electrical system. While the most outage electricity problems occur from over-loading of network and fault occurrence in the system. Normally, the network has to be checked the protection system continuously. So, the operating time of the protective devices needs to set properly with the operating of OC relays, which will protect the outage electricity in a wide area. However, these problems will be corrected by finding the method for the setting in the coordinating time interval and together with conditional in the contingency analysis. A DIgSILENT Power Factory software will be used in this paper for analyzing the system. A DIgSILENT Programming Language function is used as a tool for detecting of failure system and setting proper correction problems in the coordination of the relay.

The result shows the suitability of the coordination time in the case short circuit three phase fault and single phase to ground fault, together with an analysis of the contingency condition, which it shows the problem from over-loading, that a value more than 90 %, which consist L2-6 and L6-4, are equal to 101.34 % and 103.35 % respectively. These networks cannot accommodate the outage problem with a wide area. In the future if it has an event occurrence such as the over-loading problem and the fault occurrence, it affect to the network. Therefore, the model built line thesis can be upgraded the new feeder NL2-6 for carrying out. After improvement, the network was improved by building new feeder NL2-6. The feeder L2-6, NL2-6 and L6-4 have less than 90 % of over-loading in conditional (N-1) that are equal 78.12 %, 78.12 % and 22.85 % respectively.

5.2   Recommendation

1)   In the Future, the data of the network system will be using the analysis in a DIgSILENT Programming Language function, it will correct and complete, which will use in the analysis also the power flow, conditional analysis of contingency, and short circuit analysis.

2)   The model built line thesis will be upgraded for carrying out the complete relay coordination for substation.

3)   This method will be checked the coordination of the connected the loop network in each substation, which will be used as a tool for detecting of failure system and setting proper correction problems in the coordination of overcurrent relay in the future.