A COMPARATIVE STUDY BETWEEN WITH AND WITHOUT INFLUENCE OF TEMPERATURE FOR LOAD FORECAST

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ABSTRACT

Load forecasting is vitally important for the electric industry in the deregulated economy. It has many applications including energy purchasing and generation, load switching, contract evaluation, and infrastructure development. Load forecasting has always been the important part of an efficient power system planning and operation. The purpose of this project is to develop an Artificial Neural Network (ANN) to predict the load forecasting in power system by using MATLAB programming. Furthermore, to predict the usage of load for the weekdays approach with and without influence of weather or temperature to the load forecast and get the Mean Absolute Percentage Error (MAPE) below 5% that has been provided by Tenaga Nasional Berhad. These methods can fully recognizing the types of the data in term of training data and test data. All data are taken from Tenaga Nasional Berhad and Jabatan Meteorologi. These methods forecast the demand load by using forecasted temperature as forecast information. Means when the temperature curves change rapidly on the forecast day, loads change greatly and forecast error would be going to increase. The result obtained in this project is for weekdays that are Monday, Tuesday, Wednesday, Thursday and Friday.

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