Summary of the thesis Submitted by **Eng. Ahmed Taha Ghareeb Taha**
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Fulfillment of the Requirements to the M.Sc. Degree in Electrical Engineering,
Electrical Power System Branch

Thesis Title In Arabic Language

" التنبؤ بالأحمال الكهربائيه وتطورات النظام مع إعتبار عوامل الطقس "

Thesis Title In English Language

" Load Forecasting and System upgrades with consideration of weather parameters "

Summary

Load forecasting problem is receiving great and growing attention as being an important and primary tool in power system planning and operation. Importance of load forecasting becomes more significant in developing countries with high growth rate such as Egypt. The accuracy of load forecasting is crucial due to its direct influence on generation planning, and for its economical impacts. The objective of this thesis is to perform both long and short term load forecasting based on real historical data for the Egyptian unified network. To get these forecasts we used one of the artificial intelligence techniques which is the artificial neural network. On the other hand, it will be compared to one of the traditional methods which is the regression model. Performance of both models will be investigated including effect of weather factors and the results will be compared to obtain the validation of the proposed techniques. The Egyptian load curve will be carefully analyzed to obtain useful data. Many

experiments will be done by changing neural network parameters and the results will be observed. A comprehensive discussion will be held about load affecting factors in Egypt at different time frames. For regression model both univariate and multi-variate models will be used.