SOME STUDIES ON

POWER SYSTEM LOAD FORECASTING

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CERTIFICATE

This is to certify that the thesis entitled "Some Studies on Power System Load Forecasting" being submitted by M. Hanmandlu for the award of Doctor of Philosophy to the Indian Institute of Technology, Delhi, is a record of bonafide research work he has done during September, 1977 to November, 1980 under our supervision. The results obtained in this thesis have not been submitted to any other University or Institute for award of any degree or diploma.

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PREFACE

The thesis is based on the results of investigations carried out by the author in the Department of Electrical Engineering, Indian Institute of Technology, Delhi, during the period September 1977 to November 1980. It has been noted that eventhough load forecasting algorithms have been widely developed and applied in the western countries, relatively little work has been done in India. It has also been noted that most of the load forecasting algorithms reported in the published literature have been based on ad-hoc modelling techniques. I have, therefore, been interested in developing a set of optimum load forecasting algorithms based on minimal order model identification techniques and testing these with the real data from Indian utilities. I have also considered it desirable to concentrate on a few forecasting situations which should logically be treated through the multivariate stochastic modelling techniques.

I would like to take this opportunity to record my sincere thanks to my supervisors Prof. A.K. Mahalanabis and Prof. C.S. Indulkar who have helped through active supervision at all stages and have also been a constant source of encouragement. I am also thankful to several individuals,notably, Dr. K.K. Biswas, Dr.R.S.Rana, R. Prasad, K.P. Mohandas, Satyasheel and K.G. Kawadkar for helpful discussions.

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M. HANMANDLU

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CHAPTER 7

SUMMARY AND SUGGESTIONS FOR FURTHER WORK