

## **Acknowledgement**

I wish to express my profound gratitude and sincerest appreciation to my advisor, Associate Professor Dr. Tawee Chaisomphob, for his valuable guidance, enthusiastic encouragement, and advice throughout this study. I also acknowledge my co-advisor, Dr. Kanokporn Swangjang, for her discussion, comments and guidance.

I am grateful for the scholarship granted by the Thailand Research Fund throughout my program of study. Sincere acknowledgements are due to SIIT for providing the research grant and excellent facilities for my study.

I am also deeply thankful and extend all my sincere feelings to all related officers of the Electric Generation Authority of Thailand, the Ministry of Interior Expressway and Rapid Transit Authority of Thailand, Union Power Development Company Limited, and BLC Power Company Limited, for all their information and help.

Special thanks are also given to the Department of Chemical Engineering, The University of Melbourne, Victoria, Australia for all their help during my research in Australia.

I also appreciate all of my classmate and friends for their help, moral support and encouragement throughout the study period at SIIT.