



**TEZPUR UNIVERSITY
SCHOOL OF ENGINEERING
DEPARTMENT OF ENERGY**

Forwarding Certificate

We hereby recommend that the thesis prepared under our supervision by **Anirban Guria** entitled "Supercapacitor energy storage of solar PV electricity" be accepted in partial fulfillment of the requirements for the degree of Master of Technology in Energy Technology.

Sadhan Mahapatra
01-06-15

Sadhan Mahapatra
Internal Supervisor
Department of Energy
Tezpur University

H. Saha
26/05/2015

Prof. H. Saha
Chair professor, Project coordinator
CEGESS
IEST Shibpur
West Bengal

Prof. D. Deka

Prof. D. Deka
Head
Department of Energy
Tezpur University

Prof. D K Bhattacharyya

Prof. D K Bhattacharyya
Dean
School of Engineering
Tezpur University

Head, Department of Energy
Tezpur University
Tezpur-784001, Assam

संकायाध्यक्ष, अभियांत्रिकी विद्यापीठ
तेजपुर विश्वविद्यालय
Dean, School of Engineering
Tezpur University





TEZPUR UNIVERSITY
SCHOOL OF ENGINEERING
DEPARTMENT OF ENERGY


Certificate of Approval

The foregoing thesis by **Anirban Guria (Registration Number ENE13028)** is hereby approved as a creditable study carried out and presented in a manner satisfactory to warrant its acceptance as a pre-requisite to the degree for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve only for the purpose for which it is submitted.

Committee On

Final Examination for

Evaluation of Thesis


02/6/15

(Prof. N. Saha, IITG)

DECLARATION

I, Anirban Guria, hereby declare that this thesis entitled "***Supercapacitor Storage of Solar PV Electricity***" is submitted to the Department of Energy, Tezpur University, Tezpur, Assam, India for acceptance to award the degree of the Master of Technology in Energy Technology is prepared by me and the same has not been/is not being submitted to any other institution for any degree.

Date: 02/06/2015
Place: Tezpur

Anirban Guria
Anirban Guria
Department of Energy
Roll Number ENE13028

ACKNOWLEDGEMENTS

I express my heartiest thanks and profound gratitude to my internal supervisor Mr. Sadhan Mahapatra, Assistant Professor, Department of Energy, Tezpur University, and my external supervisor Prof. H. Saha, CEGESS, IEST Shibpur, for their utmost help and motivation in all stages of this work. Their sound of guidance has taught me the rudiments of the subject, helped me to overcome challenges and defend the results in the best possible way. A very special thanks to Prof. H. Saha to give me the opportunity to do my work under his guidance in IEST, Shibpur. The most important aspect that I have learnt from my interactions with him is the technique of conducting a successful research in a time-bound frame. I am indebted to him for the fruitful culmination of this work and look forward to continue his guidance in future.

I am immensely grateful to Prof. D. Deka, Head, Department of Energy, Tezpur University, for his official initiatives, kind guidance and the most generous support offered in times of need. His invaluable teachings, proactive suggestions, motivation towards perfection and rigorous supervision have instilled in me the discipline to persistently perform towards my goal. I would like to offer my warm regards and sincere thanks to the other faculty members of the Department of Energy, viz., Prof. D.C. Baruah, Dr. R. Katak, Dr. P. Kalita and Mr. P.K. Choudhury for their invaluable teachings and kind guidance during the entire M.Tech. Programme. I am also thankful to Prof. D K Bhattacharyya, Dean, School of Engineering, for extending his help and support whenever required.

I am highly grateful to Mr. Indranil Das, Mr. Joydip Jana, Mr. Tathagata Sarkar, Mr. Hiranmay Samanta, Mr. Abhijit Das, Mr. Ankur Bhattacharya being my guardian and helping me at every step and in times of need. Without their helps it would not have been possible for me to implement and present this project. Very special thanks to all for their invaluable suggestions, kind co-operation and moral support for the timely completion of this work.

Special thanks goes to my colleagues Kunal Mishra, Avinash Singh Patel, Avinash kumar, Anil Kumar and all my M.Tech friends for their kind co-operation and moral support for the timely completion of this work.

Last, but not the least, my indebtedness remains towards my family members for their constant encouragement and support in all possible respects throughout the duration of my M. Tech. Programme.