THE INVESTIGATION OF HYBRID SYSTEM WITH AC TURBINE GENERATOR AND PHOTOVOLTAIC

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2011

THE INVESTIGATION OF HYBRID SYSTEM WITH AC TURBINE GENERATOR AND PHOTOVOLTAIC

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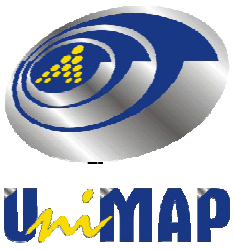
By

MOHD HAKIMI BIN WAHAT

Report submitted in partial fulfillment

of the requirement for the degree

of Bachelor of Industrial Electronic Engineering



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DECLARATION SHEET

I hereby declare that my Final Year Project Thesis is the result of my research work under supervision of MR.MOHD IRWAN BIN YUSOFF. All literature sources used for the writing of this thesis have been adequately referenced.

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APPROVAL AND DECLARATION SHEET

This project report The Investigation of Hybrid System With AC Turbine Generator and Photovoltaic was prepared and submitted by Mohd Hakimi bin Wahat (Matrix Number: 071070474) and has been found satisfactory in terms of scope, quality and presentation as partial fulfillment of the requirement for the Bachelor of Engineering (Industrial Electronic) in Universiti Malaysia Perlis (UniMAP).

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PENYIASATAN TERHADAP SISTEM KACUKAN MENGGUNAKAN FOTOVOLTA DAN PENJANA TURBIN AT

ABSTRAK

Aplikasi sistem tenaga yang boleh diperbaharui telah menjadi satu pilihan alternatif penting sebagai pembekal tenaga apabila harga minyak meningkat setiap tahun. Kombinasi lebih dari satu sumber tenaga dipanggil hibrid. Ia akan meningkatkan faktor muatan dan membantu menjimatkan kos-kos penyelenggaraan dan penggantian sebagai boleh diperbaharui dan boleh melengkapi antara satu sama lain. Sistem ini mempunyai kelemahan yang terbesar, iaitu memerlukan modal permulaan yang tinggi tetapi sistem ini mampu untuk bertahan lama malahan system ini juga boleh dipercayai dan kosnya efektif. Menggunakan fotovolta dan penjana turbin AT sebagai sistem kacukan adalah pilihan terbaik kerana menyediakan system kecekapan yang murah, boleh dipercayai dan kos yang efektif. Dalam penyiasatan ini, kajian tentang arus,voltan dan power terhadap masa telah dikaji. Data dari kajian ini penting untuk rujukan para pengkaji pada masa depan.Selain itu penyelenggaraannya murah dan mudah dikendalikan.

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THE INVESTIGATION OF HYBRID SYSTEM USING PHOTOVOLTAIC AND AC TURBINE GENERATOR

ABSTRACT

The application of renewable energy system has become an important alternative as power provider when the price of oil is increase eachyear. Combination of more than one resources of energy called hybrid. It will improve load factors and help saving on maintenance and replacement costs as the renewable can complement each other. This system has a disadvantages, which is requires high initial capital cost, but for long-lasting this system will reliable and cost effective. By using photovoltaic and AC turbine generator as hybrid system is the best choice because provide cheap efficient, reliable and cost effective. In this investigation, effect of current, voltage and power with time will study more and analyze completely. The data from this investigation are important for next research. Besides it has low maintenance and easy to handle by any person.

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LIST OF ABBREVIATIONS

HS	-	Hybrid System
PV	-	Photovoltaic
ACTG	-	Alternate Current Turbine Generator
SI	-	Solar Irradiance
AC	-	Alternate Current
DC	-	Direct Current

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