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A Small Wind Power Generator System

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A Small Wind Power Generator System

12/13/13

Matt Roell

Submitted to:

Paul I. Lin, Professor of ECET 491 Senior Design II
to fulfill B.S. in Electrical Engineering Technology Degree Requirement

Department: Computer, Electrical, & Information Technology

College of Engineering, Technology, and Computer Science

Indiana University-Purdue University Fort Wayne

EXECUTIVE SUMMARY

The goal for this project was to learn how a permanent magnet wind turbine works to produce electricity that can be then stored in a battery to then be used to control a light bulb or fan using 120Vac. The specification is to be able to produce 100 Watts of power. Ultimately, the wind turbine would be able to produce the energy harnessed from the wind once placed outside. Wind charts for the Northeastern Indiana area were found to see what the average wind speeds are so that a more developed wind turbine system would be specified [1]. The wind turbine purchased is from Wind Blue Power with the model number being DC-540. The DC-540 utilizes permanent magnets for its design [2]. The electronics to control the charge and to dump excess energy will utilize the Arduino platform. The location of a final wind turbine design would require the research of local, state, and federal regulations on erecting an apparatus above any obstructions such as trees or buildings. This may include acquiring permits and or other paperwork.

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