

EE / CprE / SE 491 – sdmay18

Group 42: “Power Systems Analysis in an Induction Type Wind Turbine”

September 24 – 30

Client:

Ron Zickefoose

Faculty Advisors:

James McCalley and Nick David

Team Members:

- Ben Zickefoose – Team Lead/Chief Engineer
- Melissa Flood – Power Engineer/Meeting Facilitator
- Tate Stottmann – Power Engineer/Test Engineer
- Matt Miner – Power and Controls Engineer/Meeting Scribe
- David Clark – Controls and Embedded Engineer/Report Manager

Weekly Summary

Continued researching individually assigned areas. Meeting with Bob Zickefoose.

Past Week Accomplishments

Productive meetings. Continuous research. Team meeting with our advisor Nick David to discuss our direction and the team progress. More in-depth discuss about the induction motor testing. Still researching general information about wind turbines and induction motors. Advanced progress on the turbine motor testing.

Pending Issues

Scheduling a time to speak with Rural Electric Co-op engineers to discuss putting a wind turbine system onto the main grid. Multiple attempts

Individual Contributions

Team Member	Contribution	Hours	Total Hours
Ben Zickefoose	Regular weekly team meeting, discussed layout of circuits for generator controller and tail fin controller, discussed wind data and power output predictions. Conference call with Bob Zickefoose on layout of both the generator controller circuit and the tail fin controller circuit.	4	37
Melissa Flood	Gathered information about wind data from National Oceanic and Atmospheric Administration (NOAA) for nearby airport. And compiled the data into an excel spreadsheet with graphs.	3	13.5

PROGRESS REPORT – 20170930

Tate Stottmann	Wind turbine efficiency research. Equations and data based on wind speed and density. Meeting with Nick.	2	19.5
Matt Miner	Phone meeting with Bob Zickefoose, the designer of the turbine. Learn how it is going to run and updated. Download PBasic programs and overlooked the program and trying to get more familiar.	4	13
David Clark	Researching information on the Parallax controller board, BASIC Stamp 2 Microcontroller Module. The Parallax board is currently being used for controlling the tailboom power and for the relays. Learning about the proprietary software language that Parallax uses called PBasic. Phone conference with Bob Zickefoose.	4	24

Comments and Extended Discussion

None currently.

Plan for Coming Week

Continue researching individual areas. Meeting with Nick David scheduled.

Summary of Advisor Meeting

Impromptu meeting with Nick David. Discussion about motor testing and how the microcontroller is connected. Meeting scheduled for Monday 10/09 with Professor McCalley.