

EE / CprE / SE 491 – sdmay18

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

September 17 – 23

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

Some of the team met with our advisor Nick David to discuss our direction and the team progress. Also, a 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.

Past Week Accomplishments

Productive meetings. Continuous research. Still revising a test to determine the wind envelope for the turbine engine. Bob Zickefoose suggested to test the motor differently so we are researching it.

Pending Issues

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

Individual Contributions

Team Member	Contribution	Hours	Total Hours
Ben Zickefoose	Worked with Melissa Flood on the rough draft (v1) of the Project Plan. Regular meeting with Nick David - we discussed sort of the same stuff again and he suggested getting better and assigning work to be done. Also, we had our weekly team meeting. Taking measurements, discussing layout, looking up parts online and in store, and shopping around for piping to be connected to the turbine	11	33

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	for the generator cables, work outlet cables, and communication cables.		
Melissa Flood	Send emails to nearby airports for information about wind data. Wrote the rough draft for the Project Plan.	4.5	10.5
Tate Stottmann	Research on islanding's relation to power grid safety standards. How does an islanded turbine cause harm to power workers? Called news stations researching for weather data.	4	17.5
Matt Miner	Researched information on induction motors to have a better understanding. Meeting with Nick David.	3	9
David Clark	Researching how to use the Arduino with electrical switches. Intent for use with the tail-boom. Researching information on the Parallax development carrier board. The Parallax board is the bases for the controls system. Meeting with Nick David.	5	20

Comments and Extended Discussion

None currently.

Plan for Coming Week

Continue research. Additional meeting in the wind lab to discuss the testing needs for the motor.

Summary of Advisor Meeting

Meeting with Nick David to discuss direction and progress. Lengthy discussion on how to test the induction motor. Bob Zickefoose raised some questions out the initial testing ideas. Meeting scheduled for Monday 10/09 with Professor McCalley.