

## EE / CprE / SE 491 – sdmay18

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

October 22 – 28

**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

Still trying to reach our point-of-contact with Rural Electric Coop (REC). Continued to sift through wind data and controller data but multiple team members. Tate worked with AutoCAD Electric and gpIEDA; while Matt worked with MATLAB, Simscape and Simulink. Meeting with client and supplemental engineer to discuss direction and the microcontroller.

Past Week Accomplishments

Continued to research individual assigned areas. Trying to push forward with CAD class with Lee Harker. Working with multiple simulation software, both Simulink and Eagle.

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 made. Still trying to make contact.

Individual Contributions

Team Member	Contribution	Hours	Total Hours
Ben Zickefoose	Multiple phone calls to client, REC front desk, and our contact at REC to try to set up a meeting and to get further contact information. Doing further research and reading for and writing.	4.5	53.5
Melissa Flood	Looked through the Alliant energy guidelines and copied over useful connection agreements to a separate document that can pertain to our group. Also figured out how to convert wind data to a excel file and got 1 complete month. There's at least 50 months. Wish me luck at a later date	5	34.5

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	after I mentally prepare myself for a mind-numbing task. Formatted wind Data PDFs into different sections to be uploaded into excel. Uploaded month through month 2 with graphs for power output on a combined excel page. 224 to go! Got up to month 8 for wind data. Questioning the worth of having all 226 months. 30min/6 months completed= 5min per month. It's only 1090 min or 18 hours.		
Tate Stottmann	Installed AutoCAD Electric at home using Wine as a wrapper. Also installed alternative gPLEDA as a backup. Began digital layout of circuit.	3	35.5
Matt Miner	Working in Matlab figuring out how Simscape works in Simulink. I figured out how to take lines from Simscape and convert them to Simulink. Nick also told us that they need to install a power motor package to Simulink. Going over Design plan grading we got and need to change fundamental and non-fundamental testing part.	5.5	33.5
David Clark	Line diagram for the microcontroller. Working on specifications for the new circuit design.	2	34

Comments and Extended Discussion

None currently.

Plan for Coming Week

Continue researching individual areas. Meeting as a group to discuss current layout of wind turbine. Planned discussion about REC documentation.

Summary of Advisor Meeting

No advisor meeting.