EE / CprE / SE 491 – sdmay18

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

September 03 – 09

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

Research for project started. First weekly meeting. Discussed and decided on team member roles. Discussed what is needed to future task. Decided who was going to do the presentations for Monday 09/11.

Past Week Accomplishments

None.

Pending Issues

Discussion with REC (Rural Electric Co-op). Need exact specifications from REC to allow the wind turbine to be connected to the main grid.

Individual Contributions

Team Member	Contribution	Hours	Total Hours
Ben Zickefoose	Revised project proposal to a level which would be acceptable. He had a meeting with the client and additional engineer about what is expected for the project, what should be done by dates, different possible outcomes, and what we would need from them. Ben physically opened panels, traced out wires, examined existing structure and took pictures of the physical system on the client's property. He also examined wire gauge, measured and recorded the physical layout of the existing site.	10	10

Melissa Flood	Research wind speed vs. power output for wind turbine.	2	2
Tate Stottmann	Researched Iowa Chapter 504 electric standards and researched reactive power use and load of motor/generators on the larger power systems. Tate also analyzed the overall system design, how the wind turbine is controlled, and what is hoped to be achieved by the system power.	6	6
Matt Miner	Reviewed the existing design plan and researched how wind turbines worked.	4	4
David Clark	Researched the functionality of the wind turbines and how induction motors work. He also researched how the existing control system is being used. David also researched the XBee and its wireless uses. He also made copies of the blueprints. Documentation, documentation and documentation.	9	9

Comments and Extended Discussion

None at this time.

Plan for Coming Week

Continue research. Narrow exact tasks that are needed. Meeting with advisor Nick David. Try and set up a AutoCad class with Lee Harker. Meet in the wind lab to discuss the testing needs for the motor.

Summary of Advisor Meeting

Meeting scheduled for Monday 09/11.