

Advisors: Venkataramana Ajarapu

Client: Venkataramana Ajarapu

Members (roles):

- Daoxi Sun- *web master*
- Riley O'Connor- *team leader*
- Trevor Webb-*communication leader 1*
- Shihao Ni – *web master*
- Xiaokai Sun- *communication leader 2*
- Ben Ryan- *concept holder*

Project Title: Hybrid Solar Wind Generation System

Weekly Summary

At the end of fall semester our team had successfully simulated both the solar and wind generation systems in Matlab Simulink. The challenge for this semester is now to implement our designs with equipment, and produce the desired results.

The main goal this week was to establish a weekly meeting time with our advisor and to move our efforts into working on the necessary hardware for both solar and wind generation.

During this first week we endeavored to become familiar with the hardware components already available for our use in the power systems lab. There are a few components that we do not have available, and which have either been ordered or will be put together by us.

Most of the group was able to meet with our advisor; one member was absent due to illness. Our advisor wanted to ensure that we were familiar with the hardware components and the dangers involved with working on this equipment before we began connecting wires and testing circuits.

A significant challenge so far has been obtaining access to the power systems lab which contains access to all the equipment that we need to work on this project. Access to this lab has been requested by several members, but only one person has been approved thus far. This makes meeting to work on the project difficult.

Meeting notes:

General Notes

- I. Present solar material and wind material to our advisor
- II. Focus on becoming familiar with equipment
- III. The Solar team must clean the panels regularly and endeavor to determine which inputs are which on the data collection software (wires are not well-labeled)
- IV. The Wind team must plan for testing the existing hardware components

10/2 Group Meeting with Advisors

Duration: 60 min

Members Present: 5

Purpose and Goals:

Present relevant background information over our project to both our advisor and our fellow group members. Both the solar and wind teams now have a better understanding of hardware requirements, but have not yet begun implementing.

Achievements:

Both groups obtained advice for moving into week two of working on this project. Most of our troubles revolve around understanding the system that is already in place and then implementing ways to change the existing system to suite our needs.

The solar team was able to successfully operate the existing system, and determine the locations and connections of a number of relevant components. Input data from the solar panels was also discovered, although interpretation of that data is an area that we need to spend some time on.

The wind team was able to test the hardware components and began to design each component according to the simulation from last semester.

Pending issues

1. Obtaining access to the power systems lab at our convenience
2. Altering existing systems to suite our needs
3. Successfully creating solar and wind generation individually
4. Combining both forms of generation to supply one load

Plans for next week

1. Wind team: (Ben, Xiaokai, Shihao) will meet to continue work on wind generation
2. Solar team: (Riley, Daoxi, Trevor) will meet to obtain data identify solar panel outputs to the system
3. Each team will also develop results that can be presented at our next meeting with our advisor and his grad student.

Individual Contributions (this week)

Daoxi Sun: 2

- Read solar panel document
- Made sure simulation is right and ready for implementation

Riley O'Connor: 4

- Read solar panel schematics
- Tested solar panel measurement system
- Attended weekly advisor meeting

Trevor Webb: 4

- Tested solar panel measurement system
- Attended weekly advisor meeting
- Updated information in the weekly report

Shihao Ni: 3

- Attended the weekly advisor meeting
- Research for design hardware components

Xiaokai Sun: 3

- Attended the weekly advisor meeting
- Research for design hardware components
- Edit weekly report
- Making testing procedures for the existing hardware

Ben Ryan: 3

- Created a wiring diagram for the existing wind circuit
- Contacted Primus Wind Power for information on our wind turbine
- Started making testing procedures for the wind components that we have
- Attended the weekly advisor meeting

Total contributions for the project

Daoxi Sun (68hr)

Riley O'Connor (69.5 hr)

Trevor Webb (69 hr)

Shihao Ni (75 hr)

Xiaokai Sun (73 hr)

Ben Ryan (77 hr)