

EE/ CprE 491 – ssddec18-19 Weekly Report

4/10/18 – 4/17/18

Group number: 19

Project Title: **Design and Implementation of a small scale standalone Hybrid Solar PV and Wind Energy Generation System**

Client & Advisor:

Venkataramana Ajjarapu

Team Members/Role:

Christopher Goodrich: Circuit Design Lead

Taylor Mullen: Testing Engineer

Kenny Nguyen: Webmaster/Circuit Design Engineer

Damon Stubbs: Software Lead

Andrew Wassenaar: Team Leader

Past Week Accomplishments:

- Discovered the major problems with the circuit.
- Went through the lab as a team and reviewed what would be done during the lab experiment.
- Found that the main limitation of our circuit is not the load supply from the solar panels, but testable loads for the lab.

Issues:

- We discovered that on a sunny day, we are not able to model the characteristics of the MPPT. This is because we do not have a suitable load to models this.
- To buy a power potentiometer to perform this lab would cost around \$300. This was a lot for just one load.
- We were not able to use our voltage, current, and power display.
- The high voltage connectors in the lab need to be closed off to keep people from getting hurt by using the lab.

Individual Contributions:

Name	Individual Contribution	Hours this Week	Cumulative Hours
Christopher Goodrich	Developed a document of all problems that need to be fixed before the lab. Looked into	6	48

	ways to isolate the high voltage circuitry to keep allow us to use the circuit as it was.		
Taylor Mullen	Work with Kenny with testing loads from the solar panel for the upcoming 452 lab and continue looking through previous teams designed lab report.	4	34
Kenny Nguyen	Ran through circuitry of components to verify how each component is inputted into the system. Tested some loads for solar power in to see if voltage is consistent with display. Simulated and tested values for lab for TA to verify for upcoming lab in 452. Continued working on course website and placing all materials on there.	4	37
Damon Stubbs	Created document of all possible problems with the design process. Revised lab document for 452 lab. Reviewed setup and brainstormed new solutions. Helped 452 lab setup and running.	5	36.5
Andrew Wassenaar	Worked to find a suitable temporary DC load for this week's lab. Tested several available resistive elements from lab and decided on the variable resistance block. Found and fixed bug in the simulation that was giving us incorrect readings for solar power output.	6.5	46

Plans for coming Week:

- Finish up preparations to do the lab the following week.
- Update the lab document to follow the new developments with the lab.