

Design and Implementation of a small scale stand alone Hybrid Solar PV and Wind Energy Generation system for EE 452 lab

EE 491, Bi-Weekly Status Report #1 January 20 - February 2

Team Members:

Conner Makoben - Electrical Engineer
Mohamed Adam - Electrical Engineer
Daniel Mendez - Lead Engineer
Samah Shabbo-Electrical Engineer
Ben Holt

Summary

The project's status is currently in the research phase. This week we had our first meeting with our project's client on Monday. During the meeting, we discussed the expectations and deliverables of the project. We also toured the lab where we will be primarily working in as well as looked at the provided equipment for the project. After the meeting, we split up individually to do our own research regarding PV solar cells and wind turbines and their generation systems. We will use this research in the coming weeks to design our project.

Contributions

| Name | Hours Worked Week 1 | Total Hours | Contribution |
|-------------|--------------------------------|--------------------|---|
| Ben Holt | 6 | 6 | Researched how a PV solar cell system works by reading articles and watching videos on various websites. I began to review the previous project documents and looked into Simulink models that might benefit the project. I plan on using this information to help with the future design and simulations of the project. |

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| Daniel Mendez | 7 | 7 | <p>Discussed with grad student on scope of work and documentation</p> <p>Arranged weekly meetings with group, client and grad student</p> <p>Arranged walkthrough with grad student to review previous team's work</p> <p>Learn and Understand each major component of project (PV Cell, MPPT, Buck converter, different types of inverters and overall PV system)</p> <p>Researched some areas of improvement for project</p> <p>Reviewed transition documents from previous team</p> |
| Conner Makoben | 6 | 6 | <p>Reviewed the previous design team's project plan and documentation to gain a better understanding of the project objective and what the expected outcome should be. Also gained a better understanding of where the project currently stands and what might need to be improved or fixed depending on whether or not we start from scratch or continue to pick up the last team's progress. Began doing some basic research on what MPPT is and how it is used.</p> |
| Mohamed Adam | 6 | 6 | <p>I have reviewed the submitted project documents from the previous senior design group. I made my overall understanding of the project proposal and its outcomes. The previous senior design project groups focused on PV system so I did some research about wind energy to see how the design would stand if we decide to add wind energy to the design. Also, I start</p> |

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| | | | checking the capability of the MPPT that used in the design for a better understanding of the most important element in our project. |
| Samah Shabbo | 6 | 6 | After we met with the group for the first time and introduced ourselves, I Went over the project requirements. I began to review the previous project to better understand the starting point. I have also done some research in how a PV solar cell system works on line. |

Pending Issues

Currently, we only have one pending issue at this time. The issue is to decide if we would like to try to understand and expand upon the previous year's project or start from scratch with our own project. We will most likely make this decision based on what our client prefers.

Plans

Our plans for the next reporting period are to look at the project as a whole and start to map out the major objectives that need to be done and to set deadlines for each objective. We plan on doing this by creating a list of objectives that are organized by importance and difficulty. Using this list we will be able to allocate more members to important and difficult tasks and allocate less for smaller tasks.