

## EE/CprE/SE 491 - sddec19-06

### Design and Implementation of a Small Scale Stand Alone Hybrid Solar PV and Wind Energy Generation

#### WEEKLY REPORT - 5

3/9/19 – 3/15/19

Client and Faculty Advisor: Dr. Venkataramana Ajjarapu

#### Team Members:

Hussein Ghitan - Meeting Scribe  
Blaise Ronspies - Test Engineer  
Adam Schroeder - Chief Engineer  
Anna Schulte - Meeting Facilitator

#### Weekly Summary:

Team met with client/advisor and also the TA to explain what was the team achievements during the last week. Hussein and Adam did the simulation part as the advisor asked.

#### Past Week Accomplishments:

This week tasks were all about the PV system simulation. Adam and Hussein worked on that part of the project using simulink modeled in MATLAB and created an excel spreadsheet showing the maximum power point, tracking across each resistor load from 5  $\Omega$  up to 500  $\Omega$  load and different irradiance and temperature. The simulation voltage and power values gave good predictions about what the hardware PV system should generate when connecting the load, it also helped the team to ensure safety when working on the hardware part of the project.

#### Pending Issues:

As we replace the breaker and add the new battery to the system we are still unsure if the system as a whole is working properly but we should find out shortly.

#### Individual Contributions:

Team Member	Contribution	Weekly Hours	Total Hours
Hussein Ghitan	Created PV system model in MATLAB and recorded the simulation values. All loads power point tracking have been confirmed and generated.	4	18
Blaise Ronspies			12.5
Adam Schroeder	Worked on modeling the PV system in	4	18

	MATLAB, provide exceelsheet of the simulated power-voltage values across each load		
Anna Schulte	Received email that breaker and battery have arrived, met with advisor and TA for our weekly meeting.	1.5	14

**Plans for Coming Week:**

The ordered parts (one 12V battery and breaker) have arrived, next week's plan is to have the hardware PV system connected (all parts) and power up the load to track the maximum power point for each load. Client/advisor also asked the team to start working on the provided lab manual created by previous team and implement the steps. There are 6 labs manual provided, each team member will work on one manual.