As we prepared for Milestone II, the group has met this week to discuss the project and future steps. I began testing the components for the PLC individually: the voltage regulator, the voltage divider, and the solid state relay/breaker.

Yesterday and today, I am still unable to have the voltage regulator operate correctly. Instead of holding the voltage to 13.75 V, the output of the regulator still follows the input. I will have to continue working on this to correct the issue.

As for the voltage divider, after I chose my resistor values, I tested to confirm the accuracy. As you can see in the picture, if the input (the battery) is 15.5 V, only 5 V would be output (the PLC) because the analog pin can only withstand 5 V. In the code, I will then take the output voltage and calculate it to show the actual input voltage.

The solid state relay/breaker also works correctly. It is easily driven by the Arduino microcontroller. In the picture attached, because there is a voltage greater than the threshold of the relay, it allows current to flow through the output pins.

Wanting to test the inverter, I used the inverter to power a small load of the PLC and a computer monitor. It works perfect as this battery will self-sustain the microcontroller and the solar tracking motors choosen by Adam.

Also, I am preparing for Milestone II by gathering my information, creating a newer, stricter set of goals, and preparing for the presentation.

From here, I will just have to integrate all the working parts, have them housed in the enclosure designed by Mr. Breedlove, and add the details to conclude the project like the design poster.