

## EE/CprE/SE 492 Bi-WEEKLY REPORT 4

August 2019 – May 2020

Group number: 28

Project title: New Design Concept for Residential Electric Meter Adapter

Client &/Advisor: Alliant energy/Zhaoyu Wang

Team Members/Role: Zane Heifner – Communication

Brenden Koenighain- Design/Documentation

Derek Drees- Research

Austin Meyer-Testing

o Bi-Weekly Summary: Over the period of time since the last update we have continued to go back and forth with the manufacturer to make sure that everything is in order for the creation of our project. They have requested an additional form of 2D panel layout for the enclosure to match the already completed 3D model. These will serve to add better detail as to the location of mounting locations for the internal components of the project. We have also begun discussing more cost effective versions of our solution that are less universal but take care of the majority of cases.

o Past 2 weeks' accomplishments/individual accomplishments:

**Major group accomplishment: We have arrived at a final plan for testing the final design to resolve the labor hours part of our cost. The enclosure will be rated for weatherproofing and will be ready out of the box with no additional testing required so we have decided to evaluate the ease of installation as the final criteria we test that would require human interaction to test.**

- Zane Heifner: Zane has completed the 3D model to the needs of the manufacturer and is beginning the process of making 2D panel mount models for the mounting locations of interior components as requested by the manufacturer.
- Derek Drees: Derek has begun compiling documentation to prove why the dimensions of our current design will work for enough meter sockets to be viable. According to our client they use over 20 different sizes of meter sockets so we have to work for all those different sizes, namely the widest socket size. If it works for that size we will work for all of them.
- Brenden Koenighain: Brenden is assisting Derek in finding the different meter socket sizes and gathering and analyzing all of the data that will prove that the design we have created will in fact work. He is also going to attempt to create a statistical analysis to find a point to make an even more cost-effective design to cover most but maybe not all possible cases.
- Austin Meyer: Austin has produced the bi-weekly report document as well as assisted in the final gathering of documentation. He has also decided upon formal testing criteria and plans. He has since moved on to begin creating an evaluation that will decide if our design passes the timed test. This would mean install time is small enough to make the billable labor time an amount that wouldn't render this project non cost effective.

Team Member	Contribution	Weekly Hours Week1/week2	Total Hours
Zane Heifner	Updated 3D model, chose manufacturer.	10/9	153
Derek Drees	Chose bill of materials, chose manufacturer.	10/7	151
Brenden Koenighain	Began additional documentations such as annotated/measured schematics	7/6	147
Austin Meyer	Began drafting bill of materials and began drafting test plan.	6/8	148

o Pending issues

- There are no issues this week that are out of our control. We simply have to continue to execute.

o Plans for the upcoming week: Send finalized design and documentation to the manufacturer once we have completed their additional documentation that they needed in the 2D panel diagrams. We will also be taking a brief break from design and manufacturing work in order to finalize our peer evaluation video that is due to be submitted Friday the 13<sup>th</sup> of march.