EE/CprE/Se 492 WEEKLY REPORT 8

March 25, 2019- March 31, 2019

Group Number : sdmay19-17

Project Title: Substation Design

Client: Burns & McDonnell

Advisor: Manimaran Govindarasu

Team Members:
Jacob Heiller- Controls Engineer
Rebecca Franzen- Studies Engineer
Connor Mislivec- Quality Control Specialist
Riley O'Donnell- Administrator
Tom Kelly- Project Manager
Wilson Pietruszewski- AutoCAD Engineer
Nicolaus Cory- AutoCAD Engineer

Weekly Summary:
This week we focused on making modifications to the 3D model design to ensure that the printing would be done in time. The modifications included splitting up the overhangs sso be able to print and taking out spaces on the transformer. After this design modification was complete, we focused most of the week on schematics. We began by performing a QC check on the finished DC transformer schematics. When this was complete and accurate, we began working on the preliminary design of the AC transformer schematics. We also continued to work on the breaker schematics and began drafting the preliminary design. Finally, the group had the opportunity to spend a day at Burns and McDonnell where we were able to tour the facility as well as see various labs they have on-site.

Past Week Accomplishments:

- Made modifications to 3D print design- Wilson and Riley
    - Fixed overhangs that would not print
    - Split up parts to be printed separately
    - Created STL files for each part
- Performed QC check on DC transformer schematics- Wilson and Riley
    - Went through each input and output and compared it to the protection document
    - Ensured that the transformer schematics and the final approved one-line matched

- Completed preliminary AC transformer schematics- Wilson and Riley
    - Determined what needed to be incorporated into the AC transformer schematics
    - Located
    - Completed drafting of AC transformer schematics
- Created presentation for AC and DC transformer schematics to be presented at advisor meeting- Wilson and Riley
    - Outlined methodology for creating both AC and DC transformer schematics
- Visit to Burns and McDonnell- everyone
    - Went on a tour of the facility
    - Explored 3D printing lab and discussed in-house capabilities
    - Explored communications lab
- Created presentation for methodology of one-line- Jake
- Started Breaker Schematics - Jake, Connor, and Tom
    - Started the initial drafting for the Breaker Schematics

Pending Issues:

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Individual Contributions:

Name / Role	Individual Contribution	Hours this week	Cumulative Hours
Rebecca Franzen	Visit to Burns and McDonnell	8	126
Jacob Heiller	Breaker Schematics & Site Visit	13	132
Tom Kelly	Breaker Schematics & Site Visit	13	128
Connor Mislivec	Breaker Schematics & Site Visit	13	126.5
Riley O'Donnell	3D Design & Transformer Schematics & Site Visit	24	147
Wilson Pietruszewski	3D Design & Transformer Schematics & Site Visit	24	148.5

Nicolaus Cory	Visit to Burns and McDonnell	8	60.5

Comments and extended discussion:

Plan for the coming week:

- Continue and Finish the Breaker Schematics - Jake, Connor, and Tom
- Continue work on transformer schematics- Wilson and Riley
    - Update information from completed breaker schematics
- Begin thinking about poster requirements and gather necessary data- everyone
- Begin writing final paper for the class- everyone

Weekly Advisor Meeting Summary:

- Jake presented about methodology of one-line diagram
- Discussed poster deadline and requirements
- Discussed schedule for future presentations to advisor
- Discussed visit to Burns and McDonnell for March 29