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***EE/CprE/SE 492 BIWEEKLY REPORT 12***

***03/30/2021 – 04/11/2021***

***Group number: SDMAY21-04***

***Project title: 138kV Cyclone Substation Design***

***Client &/Advisor: Burns & McDonnell***

***Team Members/Role: Chandler Cox (Meeting Facilitator), Owen Swanberg (Scribe), Zachary Lewis (Report Manager), Aladdin Adam (QA/Qc Manager), Mohammad Habib (Report Manager), Joseph Miller (Head Engineer)***

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**Bi-Weekly Summary**

During this reporting period, we worked mainly on completing the schematics so that we could prepare them for review as a team. We plan to perform a final review the schematics on 04/14/2021 and send them to the client soon thereafter. During this reporting period we also began to work on the panel layouts. These panel layouts are used to show the physical arrangement of the relaying equipment within the substation control room. We plan to have the panel layouts completed by 04/18/2021 and ready for an internal review. During this reporting period we also had the opportunity to speak with Burns & McDonnell about the project to get more guidance on how to proceed in the project. We had difficulty interpreting how some of the protection specification was stated, but we were able to get this cleared up with their help.

**Past reporting period accomplishments**

- Chandler Cox – Picked up comments from Joe’s review of schematics for breaker 2. Organized the team to begin work on the panel layouts. Began work for breaker 2 panel layout.
- Owen Swanberg – Picked up comments from Joe’s review of breaker 1. Began work on the panel layouts for breaker 1.
- Zachary Lewis – Picked up comments from Joe’s review of breaker 4. Began work on the panel layouts for the transformer.
- Aladdin Adam – Picked up comments from Joe’s review of schematics for Des Moines line relaying schematics. Began work on the Des Moines line relaying panel layout.
- Mohammad Habib – Picked up comments from Joe’s review of schematics for Cedar Falls line relaying schematics. Began work on the Cedar Falls line relaying panel layout.
- Joseph Miller – Performed interface testing to ensure all drawings match one another in terms of references for all schematics. Reviewed and provided feedback for all schematic drawings. Picked up comments for breaker 3 and transformer schematics. Completed the design for the breaker 3 panel layout.

## Completed work documented with pictures

We show in this section some of our completed work since the last report. We have been working diligently on the schematics which are reflected in the following screen shots:

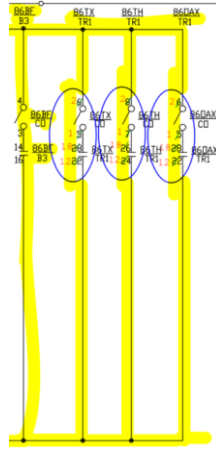


Figure 1 – Comments received from Joe regarding breaker schematics

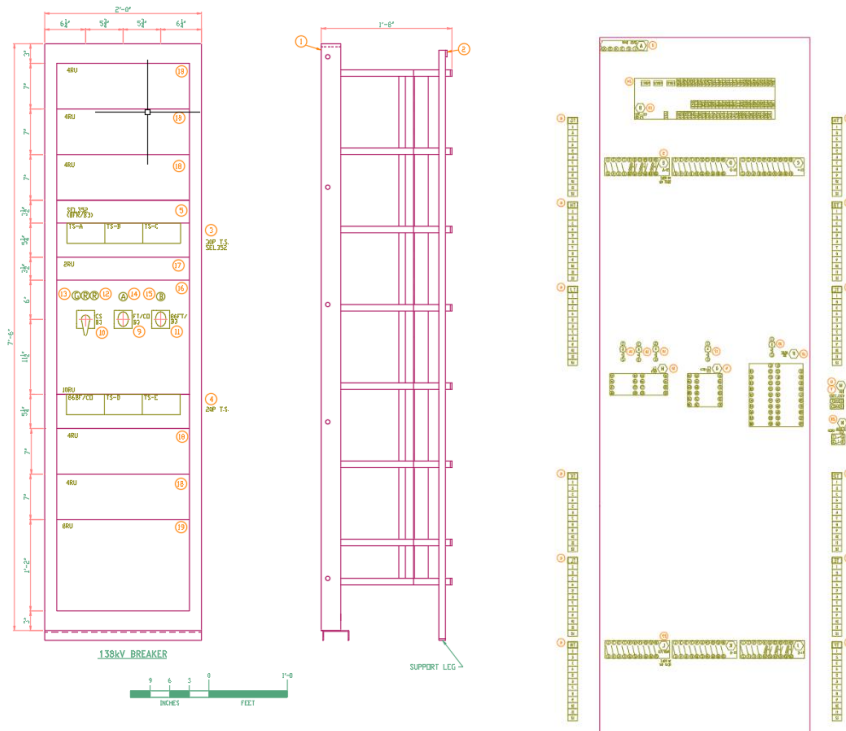


Figure 2 – Initial layout of Breaker 3's panel

### **Pending issues**

- We need to discuss with Burns & McDonnell the following items:
  - Review comments from the AC/DC study
  - Timeline of the project
  - Discuss sending the schematics
  - Advice for the final presentation

### **Individual contributions**

<b>Name</b>	<b>Individual Contributions</b>	<b>Hours this period</b>	<b>Semester Hours</b>
Chandler Cox	Schematics	18	69
Owen Swanberg	Schematics	12	62
Zachary Lewis	Schematics	10	51
Aladdin Adam	Grounding Study	6	55
Mohammad Habib	Grounding Study	12	62
Joseph Miller	Schematics	18	73

### **Plans for the upcoming period**

- Chandler Cox – Complete breaker 2 panel layout, begin to work on wiring, final report, IRP
- Owen Swanberg – Complete breaker 1 panel layout, begin to work on wiring, final report, IRP
- Zachary Lewis – Complete transformer panel layout, begin to work on wiring, final report, IRP
- Aladdin Adam – Complete Des Moines panel layout, begin to work on wiring, final report, IRP
- Mohammad Habib – Complete Cedar Falls panel layout, begin to work on wiring, final report, IRP
- Joseph Miller – Complete transformer panel layout, begin to work on wiring, final report, IRP

*The team plans to work on the wiring for one panel due to time constraints on the project*