

EE/CprE/SE 492 STATUS REPORT 2

1/31-2/13

Group number: sdmay25-02

Project title: Ames Microgrid Evaluation and Substation Consulting

Client &/Advisor: Adam Arnold (Burns & McDonnell) and Dr. Zhaoyu Wang

Team Members/Role:

- Sean Carver - Transmission Team (Substation)
- Bethany Danley - Distribution Planning Team
- Thomas Edwards - Distribution Planning Team
- Nathan Kallal - Distribution Planning Team
- Mina Khalil - Transmission Team (Substation)
- MacKenzie Woods - Transmission Team (Substation)

o Status Report 1 Summary

Over the past two weeks our senior design team met with Zak at 2:00PM in Coover to discuss our plans for the semester and our reflections. The substation team reviewed our deliverables and met with our client Burns & McDonnell to review our submissions from the past two weeks as well as expected timelines, asking questions, and ensuring alignment with our goals moving forward. Our distribution team has been continuing to work on OpenDSS model development. They have a meeting scheduled with the client for Monday, February 17th to discuss progress so far and get a review of their work on the pivot table, as well as more direction and deadlines for the rest of the semester.

o Past Week Accomplishments/Milestones Reached

- Transmission Team:
 - Engaged with our client to gain insights on our deliverables
 - Completed Rev. 0 of General Arrangement (GA) and received feedback from our client
 - Began work on Rev. 1 of General Arrangement (GA)
 - Completed Rev. 3 of Construction One-Line (COL) and received feedback from our client
 - Completed Rev. 4 of Construction One-Line (COL) and received feedback from our client
 - Continued work on Bill of Materials (to be completed by Feb. 28th)
- Distribution Planning Team:
 - Scheduled a meeting with the client for the next week
 - Specified what each .dss file does in the model package, and what needs to be done

for each file

o **Pending issues**

- Transmission Team: Currently no pending issues, awaiting feedback.
- Distribution Planning Team: Small pending issues with lack of experience in OpenDSS and how the model will come together in the end, but nothing that time and research won't solve.

o **Individual contributions**

<u>NAME</u>	<u>Individual Contributions</u>	<u>Hours this week</u>	<u>HOURS cumulative</u>
Sean	Worked on GA and got feedback during the client meeting.	6	48
Bethany	Attended the meeting on 2/13 with the TA to discuss our project and plans for the upcoming semester. Finalizing all documents to present to our industry client on Monday.	5	47
Thomas	Completed more work on the OpenDSS model. More specifically, scoped out the rest of the files that need to be completed and the order in which they should be done to minimize duplicate work.	5	60
Nathan	Began researching possible renewable energy devices, namely rooftop solar panels, and charting down notes of benefits, equipment specifications, and costs	4	43
Mina	I attended all the meetings and I'm currently working on the bill of materials.	5	41
MacKenzie	Reviewed the third and fourth revision of our construction one-line drawing and submitted it to our client as well as uploaded the proper documents to the shared Google Drive folder. Checked Sean's Rev. 0 GA. Did not attend the substation client meeting due to surgery. Attended 492 Check-In Thursday, Feb. 13th.	4	57

o **Comments and extended discussion**

Regarding non-technical concerns, there are currently no issues. Our team is collaborating effectively, and communication has been smooth across meetings and tasks. We feel confident in our ability to continue working together successfully as we move forward with the project.

o **Plans for the upcoming week**

- Sean: I got feedback on the latest version of the GA. I will work on the next revision version and get that turned in before tuesday.
- Bethany: Meet with our industry client on Monday and take the next steps. Reach out to Thomas on how best to aid with the creation of the OpenDSS model.
- Thomas: More work on OpenDSS. I plan on completing the line diagram and line codes so that the system can be worked on by multiple team members at the same time.
- Nathan: Continue to research different devices to be used in our distribution model. Work to identify locations around campus for distributed energy resources, namely roofs which can accommodate solar and also places for smaller scale battery storage devices.
- Mina: I will continue working on the bill of materials.
- MacKenzie: I plan on picking up comments where needed for the construction one-line and prepare for our next deliverable (Conduits)

o **Summary of weekly advisor meeting**

Monday, February 10th: Substation Team Meeting with Client (Burns & McDonnell)

Key Updates:

On Monday, the substation group met with our client advisors. We were introduced to Mackayla, a replacement for our previous advisor Seth. We asked questions on the marks and planned out the next few weeks. Some of the deliverable due dates were shifted. We were also put in contact with Rodolfo, who is very familiar with AutoCAD.

Thursday, February 13th: TA Check-In/Meeting (Zak)

Key Updates:

This Thursday, we met with our 4920 teaching assistant, Zak, to review our senior project. Since this was our group's first meeting with Zak, we spent most of our time going over each aspect of our project with Zak. The key takeaways from our meeting are to keep chugging along with our project and to make sure that we stick to our schedule so we don't get behind. He also recommended that even though we are split as a group, to still reach out and work together between the distribution and T&D teams. He also reminds us to make sure we file all the information that will be necessary for reports and documentation, as they are an essential part of the project. He advised us to reach out through teams if we have any questions.