

**sdmay23-27: 115kV/34.5kV Solar Power Plant & Substation Design Project**

Week 5 Report

October 21 - October 28

**Team Members**Madison Lakomek — *Researcher*Brooke Nelson — *Researcher*Ashton Randolph — *Researcher*Jacob Miller — *Researcher*Jenna Runge — *Leader*Madissen Lawrence — *Meeting Minutes Taker*Zachary Zimmerman — *Researcher*Omer Karar — *Researcher***Summary of Progress this Report**

The voltage drop spreadsheet was updated to include the new small array that we created. The string length and string wire size for the normal array were updated to ensure the total voltage drop is under 5%. A voltage drop calculation for the small array was created. The jumper length was measured for the small array using our CAD design and added to the voltage drop sheet to ensure it too was under 5%. We also checked the voltage drop excel sheet calculations by hand to ensure the equations used in the excel make sense. Finally, we met as a team with Ajarapu to discuss how we came to each decision we've made this semester.

**Pending Issues**

We need to complete ground calculations and update the cost analysis with the new smaller array included into material cost.

**Plans for Upcoming Reporting Period**

This week we plan to meet to work on the CAD, meet with Ajarapu, and meet with Black & Veatch. We also hope to get the material needed to complete the ground calculations and update the cost analysis.

**Individual Contributions**

| Team Member     | Contribution  | Weekly Hours | Total Hours |
|-----------------|---|--------------|-------------|
| Madison Lakomek | This week I worked on the proposed plan design document for our class assignment as well as filled out this weekly report.                                      | 2            | 0           |
| Brooke Nelson   | This week I worked on voltage drop calculations to ensure that our voltage drop array was accurate. I communicated with team members on the plan for next week. | 2            | 0           |

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|-------------------|--|---|---|
| Ashton Randolph   | I filled out the weekly report and communicated with team members on process and plan for next week. The team completed the proposed plan design document.   | 2 | 0 |
| Jacob Miller      | Attended team meetings with Ajjarapu   | 1 | 0 |
| Jenna Runge       | meeting with Black and Veatch was canceled this week due to scheduling conflict. Instead, coordinated with B&V contacts about canceling Wednesday meeting and coordinated with the team to send updates instead. Attended Tuesday meeting with Ajjarapu and worked on updating / finalizing voltage drop calculations. Worked on the weekly design document. | 3 | 0 |
| Madissen Lawrence | Because we did not have a meeting I was not able to take meeting minutes. Other than that I attended the tuesday meeting, and worked on the team documentation (design doc and report)   | 2 | 0 |
| Zachary Zimmerman | Spent time working on the key plan on the CAD designs and assisted in finalizing the voltage drop calculations. Helped complete the proposed plan design document.   | 2 |   |
| Omer Karar        | Helped to complete the proposed plan design document   | 1 | 0 |
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### Gitlab Activity Summary

Nothing to report.

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