

# EE 491 WEEKLY REPORT 8

October 25 - 31

Power system reliability in MISO for high wind/solar levels

Group 23

Client: Midcontinent Independent System Operator

Team Members:

Zaran Claes

Shannon Foley

Matt Huebsch

Shelby Pickering

Ian Rostkowski

David Ticknor

## WEEKLY SUMMARY

This week the team's main focus was to figure out an approach to siting. The client, MISO, wanted the team to come up with a ranking system for determining where is best for siting and how much can be sited there. Along with this, MISO wants the team to be able to explain how they chose the siting criteria and why they think it is the best option. The team has begun to brainstorm and prepare different factors, such as capacity factor, population density, state policies, etc., that can be weighted in order to figure out their final 'ranking'. The client wanted the siting rankings to be done by October 31, however, the team was unable to complete this task and so we set a new date with the client to have the siting rankings done by our next meeting on November 9<sup>th</sup>.

Additionally this week, the team was still trying to work with ETG to figure out a solution to our PLEXOS installation dilemma. Currently it is looking like we will create a VM (virtual machine) and attempt to install PLEXOS onto there.

## ACCOMPLISHMENTS FOR THE WEEK

<b>Name</b>	<b>Accomplishments</b>	<b>Hrs this week</b>	<b>Total</b>
<b>Zaran Claes</b>	-Got Plexos up on personal computer, messed around with it to get familiar. -helped come up with siting possible siting specs	10	36
<b>David Ticknor</b>	-Plexos up and running on personal machine completely -Weekly Meeting -Collaborated with siting specs -briefly assisted with Heat Map re-make	10	53
<b>Shannon Foley</b>	-Began to work on siting and realized it is/was way more work than expected -Delegated what tasks needed to be done for the week to other teammates -Continues to work with Dana Harris from Energy Exemplar on how to get Plexos on my VM computer	10	45
<b>Ian Rostkowski</b>	-standardized heat maps -began contacting MISO to get PLEXOS installed on personal laptop -collaborated with team to begin planning siting specs	10	46
<b>Shelby Pickering</b>	- Re-did heat maps to make them standardized - Completed 2012 capacity credit calcs - Met with team several times to discuss approach to siting and class assignments - Worked on heat maps presentation for MISO meeting	12	40.5
<b>Matt Huebsch</b>	-Worked summary for weekly report -Worked on heat maps -heat map and research -Wrote minutes for meeting 8	11	44

## PENDING ISSUES

- Running slightly behind schedule with siting not having been completed this week. We will have to go back over the timeline as a team and see what needs to be adjusted so we get back on schedule.

## PLANS FOR NEXT WEEK

Next week the main goal of the senior design team is to complete siting rankings for all four types of technologies (wind, rooftop solar, fixed solar, and tracking solar) and to present that to MISO. Additionally, it is a goal of the team to get the ball rolling with PLEXOS. The team will make a plan to present to the client for how they intend on using PLEXOS to evaluate the different sets of data as well as what the team hopes to get out of it. After this plan is presented, the client will begin to show the team some functionalities in PLEXOS that they will need to run their calculations.

## INDIVIDUAL CONTRIBUTIONS FOR NEXT WEEK

Zaran Claes – Help Shannon run PLEXOS workshop now that we have the program. Since the original data that was used to create the heat maps is now obsolete, the heat maps for 2007 have to be redone.

David Ticknor – Finish up all initial data analysis and really start on finishing the siting criteria. This will allow the actual siting to begin, which we hope to finish as much as possible by next Friday, where we will meet with MISO and go over using PLEXOS properly to analyze our siting.

Shannon Foley - Recreate heat maps that MISO changed the data on. This week is important to finish up siting. I will create an outline for how it needs to be done and work with the team to complete it.

Ian Rostkowski – Work on future tasks proposed by Shannon and the rest of the team. Attempt to finalize siting criteria and needed calculations to the best degree possible in order to be able to move forward with PLEXOS in the near future.

Shelby Pickering – Work on finalizing approach to siting and then work on siting, the goal is to finish siting by the end of next week. In parallel with siting, work on learning PLEXOS and work with the team to figure out how we will be utilizing PLEXOS to reach our end goal.

Matt Huebsch – Write minutes for meeting 9. Work on heat maps and siting.