EE/CprE/SE 491 WEEKLY REPORT 7

01/13/20 – 01/30/20

Group number: 21

Project title: New Simulation Methods to More Effectively Integrate High Levels of Renewable Energy Resources

Client & Advisor: MISO and James McCalley

Team Members: Jared Rickard; Collins Ntwali; Nidhi Rawell; Jeremy Nash

o Weekly Summary –

The group worked on Dr. McCalley's "Plexos Assignment" from EE 552 as per MISO's suggestion, to better get used to working with and making PCMs in Plexos. We also got Plexos successfully downloaded and installed on two virtual machines and will begin testing right away.

o Past week accomplishments

- Jared Rickard: Worked on practicing Plexos with sample assignment found online. Began work on location-based attribute calculations

- Collins Ntwali: Reviewed Plexos assignment by Dr. McCalley; Acquired VM, downloaded Plexos and waiting for verification file from Energy Exemplar.

- Nidhi Rawell: Updated the design document by changing the project timeline dates and the proposed design section was updated by adding more description of the code. Obtained my validated Plexos Academic license and used it to get the Plexos software running onto a virtual machine. Read through Plexos sample assignment and user guide.

- Jeremy Nash: Wrote code that outputs percent differences between approximated data and the original data in the form of many box and whisker plots. Successfully made contact with Energy Exemplar and verified the Plexos installations on each the virtual machines. Began practicing Plexos assignment found online. Familiarized myself with new version of code that inputs multiple .csv files and data attributes.

o Pending issues

- Jared Rickard: Finish work on location-based attributes.

- Collins Ntwali: Complete installation of Plexos.

- Nidhi Rawell: Finish Plexos assignment

- Jeremy Nash: Finish Plexos assignments and produce output data to show MISO engineers during next meeting.

o Individual contributions

Name	Individual Contributions	Hours This Week	Hours Cumulative
Jared Rickard	Coding, Software practice	10	80
Collins Ntwali	Installing Plexos and Work on Plexos assignment	10	74
Nidhi Rawell	documentation	9	75
Jeremy Nash	Coding, Software installation and practice	17	79

o Plans for the upcoming week

- Jared Rickard: Integrate other members' contributions into the main code. Finish location-based attribute calculations

- Collins Ntwali: Look up what docstrings are and all the conventions around writing them. Then write a docstring for every active function in "attribute_calculation.py" and "approx_steps.py".

- Nidhi Rawell: Start working on the code and the Plexos sample assignment.

- Jeremy Nash: Work on different aspects of code, finish Plexos assignment, assist with location-based attribute calculations

o Summary of weekly advisor meeting –

Discussed Plexos Dr. McCalley's "Plexos Assignment" from EE 552 with MISO and Dr. McCalley. Decided to move up most of our deadlines where possible to allow for flexibility to address issues when the end of the semester nears.