**EE/CprE/SE 492 WEEKLY REPORT 10**

**3/2/2020 – 3/12/2020**

**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/Role:** Jared Rickard - ; Collins Ntwali - ; Nidhi Rawell - ; Jeremy Nash - ;

o **Weekly Summary -** Worked on data and attribute analysis. Created initial list of simulations to run.

o **Past week accomplishments**

- Jared Rickard: Created script that looks at the effectiveness of attributes, selects the most effective, and clusters around all combinations of these to determine what unique simulations need to be done.

- Collins Ntwali:

- Nidhi Rawell: Started to run Plexos simulations using the new model, read through different research papers and added to a list of alternative development paths or next steps

- Jeremy Nash: Started Plexos runs for many 1-week clusters, showed how attributes affect cluster choice, completed the Docstring assignment for code readibility

o **Pending issues**

- Jared Rickard: GUI. The recently created script only works for one-week cluster, it must be expanded to look at more cluster options

- Collins Ntwali: Looked at ways to visualize data and with the help of Jared, created a python script that analyses and plots the data.

- Nidhi Rawell: Continue to run more Plexos simulations

- Jeremy Nash: Showing how attributes affect cluster choice in more depth, with bar charts; also continuing to run Plexos over and over again for different weeks.

o **Individual contributions**

| Name | Individual Contributions | Hours This Week | Hours Cumulative |
|------|--------------------------|-----------------|------------------|
| Jared Rickard | Script, code explanation, read me | 13 | 117 |
| Collins Ntwali | Scripting python code to better visualize the data | 10 | 104 |
| Nidhi Rawell | Documentation, Plexos | 8 | 98 |
| Jeremy Nash | Results interpretation, Code readibility, Plexos | 12 | 109 |

o **Plans for the upcoming week**

- Jared Rickard: Expand the script to make sure we have a better outline of what simulations need to be run. Begin building the GUI

- Collins Ntwali: Expand the script to include multiple clusters. Look at IEEE Explore papers for other possible methods of visualize it.

- Nidhi Rawell: Working on running Plexos simulations

- Jeremy Nash: Go on spring break, resume pending issues like the bar charts and Plexos runs when I return

o **Summary of weekly advisor meeting –**

Discussed visualizing data, a Plexos feature that could give us comparisons for the inputs and outputs data, and went through the Python code on attribute choice.