

EE 492 Weekly Report 6

10/2/16

Group number: DEC1614
Project Title: Impact of High Photo-Voltaic Penetration on Distribution Systems
Client & Advisor: Iowa State University & Alliant Energy & Venkataramana Ajarapu
Team Members/Role:
Logan Heinen /Team Leader
Difeng Liu/Team Webmaster
Zhengyu Wang /Team Communication Leader
Redouane Zaou /Key Concept Holders

Weekly Summary

In this week, we researched about the given system again, but more specific on settings. Additionally, we also spent some time on researching the power demand in Washington area and the average load shapes by different months. Generally speaking, we repeated doing the load shape analysis in this week, but got more output from different and improved plots.

Past week accomplishments

1. Detecting and marking all the missing spots;
2. Locating all the capacitors and regulators;
3. Finished a better load shape research reports;
4. Group meeting for solving problems.

Pending issues

- ❖ Apply load shapes provided by Client;
- ❖ Insert multiple monitors at different locations to collect data;
- ❖ Average a whole month and plot its load shape.

Individual Contributions

<u>NAME</u>	<u>Individual Contributions</u>	<u>Hours this week</u>	<u>HOURS cumulative</u>
Logan Heinen	Meeting with advisor, Group meeting, Communication with Ph.D. student, Ankit, Database research and analysis;	5	21
Difeng Liu	Updating website, Meeting with advisor, Group meeting, Database research;	3	17
Zhengyu Wang	Meeting with advisor, Group meeting, Database research, Weekly report;	4	19
Redouane Zaou	Meeting with advisor, Group meeting, Database walkthrough.	3	17

Comments and Extended Discussion

It has been a while since we have collected information in the real-world distribution system from our client. We met some difficulties with reading and observing the output data from OpenDSS by compelling the system codes from Client. Now, we are trying to figure them out and keeping making progress at the same time. It might be hard to manage the time and output quality, but we will make it.

Plan for Coming Week

The plan for the coming week is simple. We will start compelling the system again in OpenDSS and try to detect all the detail or mistakes that we have made in previous weeks. By doing that, we might be capable to solve the problem that we used to have previously, which is we cannot match the data from Client. The other main issue is the load shapes analysis. Since an advanced load shape have already been made, we will expand the analysis and report the results from next week research.

Summary of Weekly Advisor Meeting

By listening to our report of the new load shape report, Dr. Ajjarapu was satisfied with the improvements. However, he noticed the data cannot be matched up with the data from client, so he asked us to re-compel the system again with default settings and try to match the data. Otherwise, we need record all the differences and report.