

EE 492 Weekly Report 7

10/9/16

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

During this week, we kept working on two main topics, load shapes analysis and debugging the system. For load shapes analysis, we split up and focus on four different seasons, and both week day and weekend day. For debugging the system, we kept ourselves on the same page with our client and found out some different settings via emails. By the end of this week, we come out with a general analysis, but we are still working on the checking the old system.

Past week accomplishments

1. Load shapes analysis by months
2. Load shapes analysis by week day and weekend
3. Finding correct base voltage
4. More research on phase A at 10 locations we selected

Pending issues

- ❖ Concluding the reasons why we cannot match the data
- ❖ Adding solar PV system to the base system on OpenDSS
- ❖ Come up with 5 different load shapes for the next team to study

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, System debugging and load shapes analysis;	4	25

Difeng Liu	Meeting with advisor, Group meeting, System debugging, load shapes analysis;	4	21
Zhengyu Wang	Meeting with advisor, Group meeting, System Debugging, Load shapes analysis;	4	23
Redouane Zaou	Meeting with advisor, Group meeting, System debugging and load shapes analysis.	4	21

Comments and Extended Discussion

To comment on this week's work, our team are making progress on improve the complete analysis of the load shapes and we all contributed and got some output, which is a good thing. Then, the system cannot give output data that can match up with the information from our client. Based on the communication between our team and client, we hope all the wrong setting can be detected and corrected.

Plan for Coming Week

The basic plan is about debugging the system and make breakthrough out of it. Since the output cannot match, we decided to move forward on the 10 nodes that we selected to get to know about the system with new settings. On the other hand, we will schedule another conference call with our client to make some of our questions clear.

Summary of Weekly Advisor Meeting

We reported our conclusion and research methods of load shapes to Prof. Ajjarapu, and he was kind of confused by some of the plots. After the explanations, Prof. Ajjarapu understood what we really got out of the plots. Since we need prepare questions for client, Prof. Ajjarapu gave a lot of suggestions and helped us organize the draft email.