EE 491 WEEKLY REPORT 11

Date:04/10/2017

Group number: Dec1702A

Project title: Algona Municipal Utilities Power System Designs

Client &/Advisor: Algona Municipal Utilities / Anne Kimber

Team Members/Role: Yuxuan Yuan: Leader; Shengxin Mao: Communication director; Changlin Li: Software master;

- **Weekly Summary**

In this week, we solved the problem of absence security mode in WindMil and got the response of Milsoft about training tutorials. The absence of security mode causes the logon failed again. We keep communicating with Milsoft Company to solve that. On the same time, we found new methods to calculate reliability index. We will compare these new ways with the old way. And we will find out the data of Algona Milsoft model and record that.

- **Past week accomplishments**
  - Team Member Yuxuan Yuan: Work on the problem of absence security mode in WindMil. And I discussed about the new methods about reliability calculation with my group. On the same time, I keep testing the WindMil and find some data from Model, like the length and impedance of overhead and underground.
  - Team Member Shengxin Mao: Because we met the problem of WindMil. I work on the mathematic method to find new method to calculate the reliability in our distribution system. I find the IEEE STD 493 1997 is a useful information which our system should satisfy those requirements which should be SAIDI, SAIFI, CAIDI. In addition, I update our website.
  - Team Member Changlin Li: Read the third section from the book “Power Distribution System Reliability Practical Methods and Applications” by Chowdhury, Ali., and Don. Koval. Because I could not open the link for IEEE from ISU library website, I only found some part of sections from Google search. I learnt the concept of reliability and how to calculate between failure rate and reliability. Also know the relationship between customers and reliability with distribution system.

- **Pending issues**
  - Team Member Yuxuan Yuan: During the test of WindMil, I still miss a plenty of data in the model, like data of customer, power flow of feeder, and so on. I need to find out whatever circuit model includes these data. And another problem is how to test the whole model. That is important to evaluate our design.
  - Team Member Shengxin Mao: When I read several papers, which use the modeling way to calculate the reliability, and I am confused about how to know the data of different objects. Currently we don't have relative data, which client don't support for us.
  - Team Member Changlin Li: It was very hard to find a free copy of the book when ISU eLibrary did not open the link. Also to understand some equations from the books, I had to find some concept from previous sections. And I still have some questions about some symbols in the book.
  - **Individual contributions**

NAME	Individual Contributions	Hours this week	HOURS cumulative
Member Yuxuan Yuan	Communicate with Milsoft, check the new methods of reliability calculation, test the WindMil.	12	75
Member Shengxin Mao	Read some paper about reliability	11	66
Member Changlin Li	Read the book "Power Distribution System Reliability Practical Methods and Applications" about reliability	9	60.5

- **Comments and extended discussion**

Our group had a good progress in this week. And we will have a really busy coming week to read over 200 paper training manual, test the WindMil, and write the progress report. We hope we can provide the design draft of WindMil in the final presentation.

- **Plan for coming week**
    - Team Member Yuxuan Yuan: Because I have the training manual from Milsoft now, I will read that and find out the place of data. And i will communicate with DGR about the model of WindMil. And I will work on the progress report that Dr. Kimber hopes to read.
    - Team Member Shengxin Mao: I will read the manual to learn how to using WindMil and I will continue to learn how to calculate the reliability.
    - Team Member Changlin Li: I will read some part of WindMil Basic Analysis and keep trying to open the link of ISU library to find the complete version of the book “Power Distribution System Reliability Practical Methods and Applications”.

- **Summary of weekly advisor meeting**

In this week, we have communication with Dr. Kimber about Milsoft and project. Dr. Kimber hope we hand in a progress report to record all we already finish. That will help us to find some omissions in our project.