

EE/CprE/SE 491 WEEKLY REPORT 01

Start Date - January 23, 2024

End Date - February 06, 2024

Group Number: 02

Project Title: Ames Substation

Client &/Advisor: Burns & McDonnell / Hugo Villegas

Team Members/Role:

Derek Elkins - Project Lead

Patrick Musoy - Pilot Scheme Researcher

Mackenzie Ray - Meeting Manager

Nathan Tegeler - Pilot Scheme Researcher

Matthew Wells - Pilot Scheme Researcher

Weekly Summary:

During this first week, we focused on setting up our first meeting with our advisor and client. The meeting with our client was our foremost priority as the project description, while detailed, left us with a lot of questions on how to get started and what was being asked of us. We needed these answers before we could begin to research for our project. We also met with our advisor and discussed the expectations from our client, team member roles and responsibilities, as well as the use and licensing of PSCAD software. There were no changes made to our project.

Past Week Accomplishments:

Mackenzie Ray: I worked on testing a format for meeting notes and analyzing which aspects of the method used were good and which could be improved upon.

Patrick Musoy: I researched pilot schemes and IEEE requirements for protection/safety transmission lines.

Derek Elkins: I started making a folder and subfolders to keep each person's research, documentation, and designs organized.

Nathan Tegeler: Researched required transmission line piloting schemes, including directional comparison blocking (DCB), directional comparison unblocking (DCUB), and permissive overreaching transfer trip (POTT). This research included reviewing the IEEE guide for protecting transmission lines and compiling notes.

Matthew Wells: I began to research the transmission line pilot schemes, especially the four most relevant schemes: DCB, DCUB, POTT, and 87L.

<u>Name</u>	<u>Individual Contributions</u>	<u>Hours this week</u>	<u>Cumulative Hours</u>
Derek Elkins	Started planning breakdown of deliverables and getting everything organized.	2	2
Patrick Musoy	Review the project proposal and safety requirement, and some research on pilot schemes.	1	1
Mackenzie Ray	Took notes during the client meeting and reviewed the project proposal to familiarize myself with the project.	1	1
Nathan Tegeler	Researched pilot scheme. Installed autoCAD student on computer.	2	2
Matthew Wells	Researched pilot scheme fundamentals	1	1

Plans for Upcoming Week

Derek Elkins - I plan to get all the organization finished. I will begin to start research on different bus configurations.

Patrick Musoy - For the next week, I'm planning to start researching details for pilot schemes

Mackenzie Ray - This next week, I plan to start researching different bus configurations and detailing the pros and cons of each type.

Matthew Wells - In this next week, I will continue to research the different options for pilot schemes and allocate appropriate schemes to the different lines.

Nathan Tegeler - This week, I plan to continue researching the piloting schemes to develop an understanding of how to use them for the project.

Summary of Weekly Advisor Meeting

In our first meeting with Dr Villegas, we overviewed the deliverables expected by our client. We identified some strengths of the different team members and outlined the timetable and workload division for completing the deliverables. While some will use the simulation software more than others, we established a goal for all team members to be familiar with AutoCAD and PSCAD before the next semester. Dr Villegas also gave an introductory demonstration of a PSCAD simulation.