EE/CprE/SE 491 WEEKLY REPORT 10

Start Date - April 10, 2024

End Date - April 16, 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:

This week we finalized the selection for the current transformers and voltage transformers. This included identifying locations for the equipment and indicating the quantities for each. We completed the DC I/O assignments for all four transmission lines and began researching the assignments for the transformer relays. All power line carrier equipment has been selected and finalized as well.

Past Week Accomplishments:

Mackenzie Ray: Worked on rewriting the bus configuration reports given the comments we received from our client. Also finished the DC I/O assignment.

Patrick Musoy: Was sick and did not work on the project.

Derek Elkins: Worked with Kenzie on the bus configuration report. Making adjustments from both our client and advisor. I added the measurements to the overview drawing.

Nathan Tegeler:
Provided specifications for Current and voltage transformers including locations, quantities and sizes. Attempted to find information on sizing breakers. Conducted research to understand the DC I/O assignments and what would be required. Also updated the course website with information.

Matthew Wells:
I made some necessary changes to the pilot scheme report document based on the feedback from our client. I selected the specific frequencies that the PLC system will use.

Name	**Individual Contributions**	**Hours this week**	**Cumulative Hours**
Derek Elkins	Worked on the bus configuration report.	10	36
Patrick Musoy	Patrick was sick and did not work on project	0	24
Mackenzie Ray	Rewrote bus configuration design report. Finished DC I/O assignments.	4	27
Nathan Tegeler	DC I/O for transformer relays, CT and CVT selection and specifications	3	33
Matthew Wells	Finalized the Pilot Scheme Report deliverable. Selected appropriate PLC equipment details.	3	24

Action Item Table

Status	Action Item	Assigned to	Due Date	Priority	Notes
Paused	One-Line	Kenzie/Derek	Next Semester	Low	Will continue next semester
Overdue	General Overview	Derek	4/8	High	Waiting for assignments
Not Started	Elevation Design	Derek/Kenzie	Next Semester	Low	Will continue next semester
Overdue	DC I/O assignments	Kenzie Patrick Nathan	New due date 4/21	High	Only Transformer relays left
Overdue	AC I/O assignments	Nathan	New due date 4/21	High	Need to size breakers then will be done

Plans for Upcoming Week

Mackenzie Ray:
Start implementing the DC I/O assignments into the report. Finish up the changes to the bus configuration report.

Patrick Musoy: Will work on finishing deliverables.

Derek Elkins:
Once equipment has been finalized I will add the names of them onto the overview. I will also help where needed in completing deliverables.

Nathan Tegeler:
Complete all remaining deliverables including updates to I/O assignments and Piloting report. Finalize documents and begin preparing for presentation.

Matthew Wells:
Implement the content from the reports and other items into the panel review presentation.

Summary of Weekly Advisor Meeting

This week we discussed the bus configuration report with Joseph and received feedback. Feedback included ensuring that information was presented more formally. Additionally, we need to provide more details about the bus configuration we selected and why. Comparing and contrasting between the other options more. In the piloting report, we were told to provide more detail on the DTT and DCUB schemes and ensure clarity for the client.
For our meeting with Hugo, we discussed these reports as well and received feedback on how to improve the reports further. For the piloting report, he suggested that we use a diagram showing the protection scheme and the lines. This could help in describing what is happening with each protection scheme.