
Black & Veatch's 138kV/13.8kV Substation Design Project

SDMay18-06

Faculty Advisor: Dr. Ajjarapu

EE 491 Weekly Report 9

Date: 11/16 to 11/22

Andrew Brown	-AutoCAD Director, Design Engineer
Eric Fritz	-Meeting & Communication Director, Test Engineer, Design Engineer, Quality Assurance
Brent Hines	- Project Lead, Materials, Executive Budget lead, Design Engineer
Gavin Christensen	-Chief Design Engineer
Weng Hoong Loo (Terry)	-Scheduling, Design Engineer

Summary of Progress this Report

In the panel drawings the RTU was found to be missing and was replaced.

We were assigned calculations.

1. Find the max power (MVA) of the substation using the CT ratios above CB 4. For the calculations use a ratio 25% greater than listed.
2. Find the peak AC and DC voltage of the control house.

Work continued on the drawing list, panel schematics, and relay documents.

Pending Issues

Relay documents are not in line with the scope of the project, a solution is in progress.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Andrew Brown	Revised drawings for substation control house panel layouts, as well as back-up relay diagrams. Performed preliminary calculations for substation max power capacity and control house max AC/DC current with Brent Hines.	6	81
Gavin Christenson	Looked over relay diagrams. Uploaded and made further marks to panel diagrams to assist others.	8	78
Eric Fritz	Prepared the meeting agenda comprised of questions needing to be answered, along with the documents that we will discuss. Recorded the details of the meeting with Black and Veatch and reported them in the prescribed bulleted format.	9	72
Brent Hines	Updated team website, continued to work on panel arrangement documents. These changes were more in-depth, changing part numbers and descriptions of the various components involved in the panel arrangements. Finalized panel arrangement documents and submitted them to our industry advisor.	10	88
Weng Hoong Loo (Terry)	Finalized the changes on panel drawings, changes were more in-depth, changing part numbers and descriptions of the various components involved	10	88

	in the panel arrangements.		
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Plans for Coming Week

Receive feedback on the panel arrangement documents and make appropriate changes.

Start work on the feeder diagrams and main connection diagram.

Start work on the primary, backup and It relay documents