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

SDMay18-06

Faculty Advisor: Dr. Ajjarapu

EE 491 Weekly Report 6

Date: 10/19 to 10/25

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

Summary of Progress this Report

- This week we completed the first draft of the key protection plan.
- Our contact at Black & Veatch offered several suggestions which we then added into the design.
 - We incorporated the Q and K symbols found in the one-line diagram into the KPP
 - Then we created a key on what these symbols mean.
 - We changed the ratio in the 4th line of the breaker's high side.
 - We completed the next draft of the KPP as of Monday, October 16, 2017.
 - We removed all logos, names and other identifying features in the documents and replaced them with ones that reflect our team.
 - We renumbered the documents to sort them by function and type
 - AC diagrams are now numbered starting with 11_ i.e. 110, 111, 112

Pending Issues

- The key protection plan was reviewed by our contact at Black & Veatch and has provided additional feedback to act upon.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Andrew Brown	Weekly meetings, Finalized changes to key protection plan drawing Started drawing for high-side AC protection	6	51
Gavin Christenson	Weekly meetings, started AC protection diagrams, changed according feeders, deleted unnecessary busses and voltage regulators, renamed various relays to correspond to the key protection plan.	8	43
Eric Fritz	Weekly meetings, and official communication documents. Researched further into the control and protection systems; specifically the one line diagram.	7	43
Brent Hines	Weekly meetings, started AC protection diagrams, changed according feeders, deleted unnecessary busses and voltage regulators, renamed various relays to correspond to the key protection plan.	8	50
Weng Hoong Loo (Terry)	Weekly meetings, reviewing of relay documents, looked into the changes of AC protection document, upkeeping of cloud storage	6	43

Plans for Coming Week

- Continue working on AC protection documents.
- Submit finalized key protection diagram to B&V.