

PROJECT:	115 kV/34.5 kV Solar Power Plant/Substation Design Project
CLIENT:	Black and Veatch Corporation
CLIENT CONTACT:	Adam Literski
ADVISORS:	Venkataramana Ajjarapu, Anne Kimber
TEAM EMAIL:	may1602@iastate.edu

CHASE BENTON:	Team Leader
SENKO DIZDAREVIC:	Team Communication Leader
ARIF IBRAHIM:	Team Webmaster
MAKOKO MUKUMBILWA:	Key Concept Holder

ACOMPLISHMENTS

We have completed the array parameters for the solar power plant block design and submitted to client for approval. This includes the number and type of panels, combiner boxes and inverters. As of this report, we do not have a response.

MEETING NOTES

Dr. Ajjarapu Meeting 10/07/2015 3:00-4:00pm

With Dr. Ajjarapu we discussed found some issues with our solar block schematic layout. At least we believe we found a problem, we will have to research further. The power input at our combiners and totals for block do not add up 80 MW. Although we could be using the wrong numbers for calculations due the temperature and solar radiation differentiations being non nominal in the area. Our array parameter tool seems to be stating that we are meeting specifications, but Dr. Ajjarapu is questioning this. We will need to take that up with Adam Literski and get his opinion.

Dr. Anne Kimber Meeting 10/05/2015 1:10-1:30pm

We had a brief meeting with Dr. Kimber and Nick at the renewable energy laboratory in Coover. They helped us clarify nomenclature issues associated with solar generation. Such as unstandardized use of the word module and panel, in some contexts it is equivalent while in others it is not.

PENDING ISSUES

Row spacing for each table needs to be calculated. The reason for incompleteness is our uncertainty in the specifications provided only in the array parameter tool and time constraints.

WEEK SUMMARY

The solar block diagram with parameter is complete and submitted for approval. The number of panels in a string, string output, table layout in block and one-line schematic is complete. An ILR of 1.27 is obtained with current specifications.

GOAL FOR NEXT WEEK

- Finalize solar plant layout, parameters, specifications, and budget with client.
- Begin substation design.

INDIVIDUAL CONTRIBUTIONS

Chase Benton:

- Calculated solar plant parameters.
- Began budget calculations.
- Attended meetings.

Senko Dizdarevic:

- Completed weekly reports
- Assisted in solar plant parameter calculations.
- Completed solar block diagram and one-line schematic.

Arif Ibrahim:

- Calculated solar plant parameters.
- Attended meetings.

Makoko Mukumbilwa:

- Attended meetings.

HOURLY CONTRIBUTIONS

Team Time Contribution Week 6 (hours)		
Member	Week Contribution	Individual Cumulative
Chase Benton	5.5	22.5
Senko Dizdarevic	6.0	28.5
Arif Ibrahim	3.5	17.0
Makoko Mukumbilwa	1.5	12.5
Team Week Total	16.5	
Team Cumulative Total	80.5	