

PROJECT:	115 kV/34.5 kV Solar Power Plant/Substation Design Project
CLIENT:	Black and Veatch Corporation
CLIENT CONTACT:	Adam Literski
ADVISORS:	Venkataramana Ajjrapu, Anne Kimber
TEAM EMAIL:	<a href="mailto:may1602@iastate.edu">may1602@iastate.edu</a>

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

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## ACOMPLISHMENTS

We have final alternations to solar plant array design completed and made much progress on conductor requirements. Conductor requirements still require voltage drop analysis. The substation drawings were submitted for review. Circuit protection and feeder drawings are mostly complete.

The design document first draft is complete. The document does not include design content for the substation because we are only in the early stages of that portion. See team website for document.

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## MEETING NOTES

**Client Meeting**                      10/19/2015    2:00-3:00pm

Adam Literski discussed finalizing array parameters for solar power plant. Everything is approved up to the conductors. The conductors still require voltage drop parameters, in which he has not provided guidelines for us yet. Our new solar plant required output is 60 MW, from the previous requirement of 80 MW.

**Client Meeting**                      10/21/2015    2:10-3:00pm

We discussed substation design drawings; tie-ins to step-up transformer, feeder circuit parameters, and protection devices. The changes required are numerous and we will follow up with modifications next week.

**Dr. Ajjarapu Meeting**      10/21/2015    3:10-4:00pm

Dr. Ajjarapu discussed the necessity to provide a simplified block diagram for the design document, including blown up details for select blocks. In addition, he set us up with a EE492 group to see their practice presentation or slides for next week. This will be helpful for preparation of our own presentation.

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## PENDING ISSUES

We still have yet to finalize conductor requirements due to lack of voltage drop parameters.

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## WEEK SUMMARY

Final modifications were made to solar array layout including AutoCAD drawing of single solar array. Progress was made with substation drawings and submitted for approval.

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## GOAL FOR NEXT WEEK

- Finalize conductors with client.
- Continue substation drawings and markups.
- Continue design document including budget.
- Begin project plan version 2 since we have begun substation component of project.

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## INDIVIDUAL CONTRIBUTIONS

Chase Benton:

- Substation AutoCAD drawings; feeder, collector, key protection.
- Substation parameter calculations.
- Attended 2 meetings.

Senko Dizdarevic:

- Completed weekly reports.
- Array parameter calculations.
- Array block layout final redesign.
- Conductor selection.
- Complete design document version 1.
- Attended meetings.

Arif Ibrahim:

- Substation AutoCAD drawings; feeder, collector, key protection.
- Substation parameter calculations.
- Updated website.
- Attended meetings.

Makoko Mukumbilwa:

- Substation AutoCAD drawings; feeder, collector.
- Attended meetings.

## HOURLY CONTRIBUTIONS

Team Time Contribution Week 8 (hours)		
Member	Week Contribution	Individual Cumulative
Chase Benton	11.0	36.5
Senko Dizdarevic	12.0	56.5
Arif Ibrahim	10.0	49.0
Makoko Mukumbilwa	4.0	19.5
<b>Team Week Total</b>	<b>37.0</b>	
<b>Team Cumulative Total</b>	<b>161.5</b>	

