

EE/CprE/SE 492 BIWEEKLY REPORT I SDDec21-10
Iowa State BESS (Lithium Ion Battery Energy Storage System)

Aug 26th – Sept 9th

Client: Burns & McDonnell (Point of Contact: Chris Ruckman)

Faculty Advisor: Dr. Venkataramana Ajjarapu

Team Members/Role:

Aisha Alzaabi- Client Communicatory

Hussein Abbakar- Load flow analysis and one line diagram

Gregory Bizoff - Webmaster and Assistant Circuits Specialist

Matthew Pfeiffer - CAD Design Specialist, Site Layout Engineer, and Project Manager

Chase Stahl - Secondary CAD Designer

Julia Zhang - Circuits Specialist and Assistant Webmaster

Biweekly Summary

- *Reestablish weekly client meeting times and create design schedule - all*
 - *Weekly client meetings will be held on Thursdays from 3:30 - 4:30*
 - *12 week design schedule to learn materials and present deliverables that include but not limited to grounding diagrams, load flow analysis, short circuit analysis, and circuit sizing and scheduling.*
 - *Review faculty panel year end presentation (Spring 21 semester) and touch base on where the last semester ended.*

Accomplishments

- Developed approaches to create a grounding diagram and grounding plan for the ISU BESS.
 - During our client meeting we were taught about grounding studies, NEC grounding code and general tips and tricks to produce a grounding diagram that will depict our grounding rod placement, grounding cable, and connection points.
 - This task will be the first initial testing of our new team evaluation method where someone (or multiple team members) design something and the others provide quality assurance and double check the feasibility and accuracy of the deliverable.

Pending

- Site layout re-evaluation
 - As referenced in the faculty panel presentation it is not legal to “build” our theoretical BESS in the location we have currently chosen, so a new site needs to be found and potentially redesigned/ worked.
- Grounding Diagram - Matt

- Develop and overlay grounding materials on initial site layout design per NEC 2020 code

Individual contributions

<u>NAME</u>	<u>Individual Contributions</u>	<u>Hours this week</u>	<u>HOURS cumulative Spring</u>
Aisha Alzaabi		2	2
Hussein Abbakar		2	2
Gregory Bizoff		2	2
Matthew Pfeiffer	Set up an initial team meeting and facilitate terms of upcoming semester, slightly modified site layout.	3	3
Chase Stahl		2	2
Julia Zhang		2	2

Plans for the upcoming week

- Grounding Plan - Matt
 - Overlay Grounding wire, grounding rod, and connection points to site layout
 - refresh and learn NEC 2020 grounding code to ensure everything is up to standards and ensure safety.
- Site Layout review - All
 - Review site layout for new placement
 - determine if site layout needs to be reworked entirely or just moved to a new location