

Team Name: sddec21-10

Team Members: Chase Stahl, Greg Bizoff, Matt Pfeiffer, Aisha Alzaabi, Julia Zhang, Hussein Abbakar

Report number: 2

Report Period: Start: 2/15/2021

End: 2/28/2021

### **Summary of Progress in this Period**

We met with Chris Ruckman again twice for our scheduled Wednesday afternoon meetings. We learned more about batteries from him both weeks. The meeting on 2/17 primarily covered battery safety. We focused on the causes and effects of failures and how they can be prevented. This is a complex topic and no one technique is dominant. Another topic discussed was the structure/components of a lithium-ion battery storage system. We talked about how to use the available area to overbuild our system, as well as AC voltage VS DC voltage coupling. We also discussed individual roles for ourselves, with the caveat that they are not definitive yet.

The meeting on 2/24 covered the general structure of the US power grid, such as the system operators and their functions. Another item was some applications of batteries, such as bulk energy, ancillary services, transmission/distribution, and customer services. We then discussed some recent/future developments in battery technology. Lastly, we also determined a few options for a hypothetical battery energy storage system(BESS) on Iowa State's campus using Google Earth. Chris planned to give the ideas to a coworker to determine their viability.

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### **Pending Issues**

We still haven't met with our project advisor. We haven't heard from him since we sent him an email in the first week.

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### **Plans for Upcoming Reporting Period**

Our two upcoming meetings are:

- March 3rd - BESS SLD
- March 10th - BESS Sizing

Additionally, we are planning on determining the location on Iowa State's campus for the BESS.

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