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## EE 492 Bi-Weekly Report

February 8 - February 21

SDMAY21-46

Microgrids to Support Communication Infrastructure

**Client/Advisor:** Dr. Anne Kimber

**Team Members:** Dylan Miley, Liam McAlister, Ryley Radack, Abdelrahman Mannan, Hoang Dang

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### Weekly Summary

This past time period, we worked on solving the integration issues that arose when we combined our individual simulations.

### Past Week Accomplishments

- Improved grid-forming inverter model
- Improved grid-following inverter model
- Improved wind-turbine model
- Worked on integrating PV Array, battery, and inverter models

### Pending Issues

- Some integration issues are still occurring
- Need to integrate new inverter models
- May need to fine-tune controls

### Individual Contributions

Team Member	Individual Contributions	Hours This Time Period	Cumulative Hours
Liam McAlister	- Created new grid-following inverter model	~12	~44
Dylan Miley	- troubleshoot hydrogen inverter model	~10	~46
Hoang Dang	- Finished Grid forming Inverter for Battery model - Combined Battery Model with PV array	~12	~44
Abdelrahman Mannan	-Worked on integrating PV system with Battery and inverter	~10	~42
Ryley Radack	- Added controls for	~11	~47

	wind integration with inverter - Started integration with Inverter and inverter control		
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### **Plans for the Upcoming Week**

- Liam - Integrate inverter models into simulations
- Dylan - Complete integration of hydrogen inverter
  - start integration of hydrogen+inverter with the rest of microgrid
- Hoang - Refining Grid forming Inverter's filter.
  - Integrate battery and grid forming inverter with rest of microgrid
- Ryley - integrate wind with rest of simulation
- Abdel - Integrate PV array with system
- Entire team - Refine combined models.
  - Integrate to one final simulation

### **Summary of Weekly Advisor Meeting**

- Discussed new inverter models
- Set deadline of having completed simulation by Friday of this week