

EE 492: Weekly Report 4

February 18th – February 24th

sdmay19-24:

Power System Reliability in MISO for High Wind/Solar Levels

Team:

Zaran Claes, Shelby Pickering, Matt Huebsch, Shannon Foley,
David Ticknor, Ian Rostkowski

Advisor:

Dr. James McCalley

Client:

Midcontinent Independent System Operator (MISO)

Accomplishments this week

Task:	Group members who contributed:	How they contributed:
Write script to automate PLEXOS process.	David	Worked a little bit with siting documentation. Began researching plexos API.
Scale generation to 2017 levels in PLEXOS model.	Zar	MISO gave us a chart that our generations need to match, we went ahead and made the generation capacity match the chart.
Build PLEXOS Scenarios	Shannon, Ian	Began adding generation to scenarios in PLEXOS in order to construct instances for 10, 30, 50 and 100% renewable penetration with a 50/50 mix of wind and solar

Pending Issues

No pending issues.

Plans for next week

This week was a slow week for the senior design team with midterms, however the team needs to complete the following by the end of next week:

- Create two base cases: one with zero renewables and one with only the MISO renewables. The zero renewables LOLE will be what we compare to each penetration level's LOLE, and the scenarios will be built off of the base case which will also include MISO renewables.
- If time permits, begin using the siting criteria developed from last semester to begin adding additional renewable generation to the correct testing scenarios. IE the 10% scenario will have the initial MISO renewables plus whatever can be taken from the siting criteria document to create a 10% renewable energy model.