

EE 492: Weekly Report 6

March 4th – March 10th

sdmay19-24:

Power System Reliability in MISO for High Wind/Solar Levels

Team:

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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:
Siting Generation	Matt Huebsch	Put together capacity factors and worked on hourly renewable generation levels.
Consolidation of PLEXOS Models	Ian/Shelby/Shannon	The team was having issues with generation in the base model that they were working in, so their client MISO sent them a new model with the correct generation. The team had to consolidate the new model with the old one by doing the following: <ol style="list-style-type: none"> 1. Copy over load from old model to new 2. Copy over scenarios 3. Copy over PASA simulation models
Fixed siting	David	Now that the team better understands how the client wants renewable generation added, siting needed to be re-done since ~10% of the system is already renewables.
Adding new renewable penetration scenarios	Ian/Shelby/Shannon	Since the siting criteria changed slightly, the team began to create the generation penetration level scenarios (10,30,50,100%) in PLEXOS.

Pending Issues

The team had some trouble with the generation levels not matching the table given to them through MISO. There was some confusion between all generators and MISO generators and the team tried to perform re-mapping of the generation to only MISO generators, but couldn't figure it out. The team received a new model from MISO to fix the numbers and have consolidated the old model with the new one.

Plans for next week

Next week the team needs to run a PASA simulation and calculate the LOLE for the comparison model in PLEXOS. The team also needs to put in all the 50/50 scenarios (for the different penetration levels) into PLEXOS and hopefully start running those PASA simulations.

Additionally, the team needs to figure out the change in siting since they discovered there is approximately 10 percent renewables already on the MISO system.