**FOR EASTERN AREA Jiang, John said:**

Kash, Thanks for asking.

We should be able to get the network topology w/ nodal load/generation of the entire easter connection of the US power grid (60kV and above I believe) and extract the part of the NYC area from it.

However, I’m not sure if it is useful or not since the model only has information on high voltage systems, the detailed information about the lower voltage networks is not included.

As you possibly already sensed (I also mentioned it in our last proposal meeting), a high voltage topological model has the network complexity but doesn’t have the information extremely suitable SIR study. The lower voltage network model may be more of interest for SIR study, but it doesn’t have the “complex network” flavor (a lower voltage power network is more prone to the impact of disinformation but it has another type of complexity, namely electromagnetic transients which is very different from the steady-state network flows).

To my understanding, any realistic lower voltage models are highly classified. I’m not sure if we can get one from OG&E.

If you really need a detailed lower voltage network model, it might be easier to contact OU facility management to see if they can provide the model of the OU campus and should be good for SIR research.

Please let me know if I can be of any assistance.

Thanks.

John.

**Was replied to:**

John, one of my PhD students is working on an introductory integration of SIR (for disinformation) + network flow (for electric power) models. We have an electric power network for Shelby County, TN, but it’s not so interesting. Do you have an electric power topology/capacities/demands for NYC? Note that we’re being naïve about the network flow model and that we’re not actually simulating the effects of disinformation from a true power grid perspective yet.

We’ll naturally include you on any paper that might result. Thanks!

[**https://wimnet.ee.columbia.edu/portfolio/synthetic-power-grids-data-sets/**](https://wimnet.ee.columbia.edu/portfolio/synthetic-power-grids-data-sets/)

Or

<https://egriddata.org/dataset/columbia-university-synthetic-power-grid-geographical-coordinates>

Both are the same

Data Files

This data set consists of four tables, each contained in a single comma-delimited CSV file. The files contains the data regarding the buses and lines in the synthetic network generated based on the topology of the Western Interconnection (WI) power grid as described in the paper above. The used parameters  are c = 55, η = 0.5, β = −2.5, and γ = 1.5. The data is organized as follows:

Gen\_WI\_Bus\_Locations.csv provides the geographical location of each bus in the generated network. Each row of the corresponding table contains of three fields: the bus number (labeled as Bus Number), the longitude of the bus in degrees (labeled as Lon), and the latitude of the bus in degrees (labeled as Lat).

Gen\_WI\_Lines.csv provides the list of the lines in the generated network. Each row contains four fields: the line number (labeled as Line Number), the bus number at one end of the line (labeled as Bus 1), the bus number at the other end of the line (labeled as Bus 2), and the length of the line (labeled as x) that can be used as the reactance value of that line.

Gen\_WI\_Supply\_Values.csv provides the supply at each node in the generated network.  Each row contains two fields: the bus number (labeled as Bus Number) and the supply value in megawatts (labeled as Supply).

Gen\_WI\_Demand\_Values.csv provides the demand at each node in the generated network. Each row contains two fields: the bus number (labeled as Bus Number) and the demand value in megawatts (labeled as Demand).