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A distribution test system with smart meter data

Dear Colleagues:

With permission from our utility partner, we want to share a real distribution grid model with one-year smart meter measurements. Here is the summary of this distribution test system:

- The system consists of 3 feeders and 240 nodes and is located in Midwest U.S.
- The system has 1120 customers and all of them are equipped with smart meters. These smart meters measure hourly energy consumption (kWh). We share the one-year real smart meter measurements for 2017. To protect privacy, individual customers' load behaviors are not disclosed. Therefore, the smart meter measurements have been aggregated at the secondary distribution transformer level (120/240V). This means the measurements from customers connected to the same secondary distribution transformer are aggregated.
- The system has standard electric components such as overhead lines, underground cables, substation transformers with LTC, line switches, capacitor banks, and secondary distribution transformers. The real system topology and component parameters are included.
- You may download the dataset at <http://wzy.ece.iastate.edu/Testsystem.html>, including system description (in .doc and .xlsx), smart meter data (in .xlsx), OpenDSS model, and Matlab code for quasi-static time-series simulation.

This dataset provides an opportunity for researchers and engineers to perform validation and demonstration using real utility grid models and field measurements. If you have any questions or comments, please contact me at wzy@iastate.edu. We greatly appreciate the help of Iowa State's Electric Power Research Center (EPRC, <https://powerweb.ece.iastate.edu/welcome-to-the-electric-power-research-center/>) and the utility partner. We are working with utility partner to share more distribution grid models and data in the near future. Thanks!

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