

SHORT-TERM LOAD FORECAST METHODOLOGIES

KENTUCKY MUNICIPAL POWER AGENCY (“KMPA”) and KENTUCKY MUNICIPAL ENERGY

AGENCY (“KYMEDIA”)

American Municipal Power, Inc. (“AMP”) produces the Short-Term Load Forecast (meaning the load forecast for (i) each hour for each of the current day plus the six (6) following days and (ii) the peak for the day for each of the twenty-nine (29) days following seven (7) day period covered by the hourly load forecast) for KMPA and KYMEA. AMP typically prepares the Short-Term Load Forecast each business day morning and often updates again in the afternoon or as base assumptions change. A revised Short-Term Load Forecast is prepared on Saturdays and/or Sundays if the assumptions used on Friday for the Saturday, Sunday, or Monday forecasts materially change.

AMP uses statistical forecasting methods and similar day comparisons as well as an extended weather forecast to estimate the load and energy requirements for each day and the next 10 to 14 days. AMP also uses a load forecasting service called Pattern Recognition Technologies (PRT) that utilizes a neural network based model to predict hourly loads and provides hourly forecasted temperatures for the current operating day plus the next eight (8) days.

Once the load forecast file is created, it is submitted to the LG&E/KU Transmission Balancing Authority (BA) who in turn uses their internal automotive process. Once submitted to the LG&E/KU BA it is aggregated with the LG&E/KU load forecast and submitted to the TVA RC automatically on an hourly basis.

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LOUISVILLE GAS AND ELECTRIC COMPANY AND KENTUCKY UTILITIES COMPANY ("LG&E/KU")

The LG&E/KU Generation Dispatch Group produces the Short-Term Load Forecast, meaning the load forecast for each hour for each of the current day plus the forty one (41) following days for LG&E/KU which includes the load forecast for KU (including KU's retail customers, KU's wholesale municipal customers and Old Dominion Power) and LG&E.

Generation Dispatch prepares the Short-Term Load Forecast each business day morning and updates it again in the afternoon or as base assumptions change. A revised Short-Term Load Forecast is prepared on Saturdays, Sundays, and holidays if the assumptions used on the prior forecasts materially change.

The Short-Term Load Forecast is developed using two models: (1) the Electric Power Research Institute Advanced Neural Network Short-Term Load Forecaster ("EPRI ANNSTLF"), a neural model using historical load and weather patterns to forecast future load values by region; and (2) the Pattern Recognition Technologies Similar Day Load Forecaster ("PRT SDLF"), using historical load database to best-matching similar days based on hourly temperature forecasts and previous day(s) actual hourly loads and temperatures. Each model produces a seven (7) day hourly load forecast (same day and six (6) days forward). Input into the models includes previous day hourly actual loads, previous day hourly actual weather parameters, present day hourly actual loads (up to time of model run), present day hourly weather forecast parameters, and six

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(6) day forward forecasted hourly weather parameters. Actual and forecasted weather parameters, including temperature, relative humidity, wind speed, and light intensity for four locations across the LG&E/KU service territory, are obtained from a contracted weather service provider.

Reviewing all the available scientific data and combining it into a single, combined LG&E/KU Short-Term Load Forecast requires both analytical expertise and human judgment. Generation Dispatch reviews the forecasted hourly load as generated from the load forecast models and compares the output to historical loads. Generation Dispatch uses its best judgment to develop and project hourly load for seven (7) days. Generation Dispatch also forecasts hourly loads for thirty five (35) days beyond the initial seven (7) day forecast, using any known upcoming load changes, and forecasted weather patterns. The Short Term Load Forecast may also include Demand Side Management load reduction as applicable.

Once the load forecast file is created, it is submitted to the LG&E/KU Transmission Balancing Authority (BA) who in turn uses their internal process. Once submitted to the LG&E/KU BA it is aggregated into the LG&E/KU Balancing Area load forecast and submitted to the TVA RC automatically on an hourly basis.

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OWENSBORO MUNICIPAL UTILITIES (“OMU”)

OMU produces a Short-Term Load Forecast (meaning the load forecast for (i) every hour of the day starting with the following day (day-ahead forecast) plus the next thirteen (13) days for a total of fourteen (14) days and (ii) the peak for the day for the next day and each of next thirty-nine (39) days for a total of forty (40) days. OMU typically prepares the Short-Term Load Forecast each morning between the hours of midnight and 4 AM EST. The forecasted load and the actual load are compared on an hourly basis. If the error between the two parameters exceeds 8 MWs, OMU may generate a new Short-Term Load Forecast and resubmit on the next hour following the process described in the third paragraph below.

OMU generates a Short-Term Load Forecast using MetrixND load forecasting software developed for OMU by Itron Inc. The MetrixND software uses statistical forecasting methods, historical load data, and similar day comparisons as well as an extended weather forecast to estimate the load and energy requirements for the forecast periods. OMU receives weather information provided by Schneider Electric. Schneider Electric provides proprietary historical and projected weather forecast data to OMU for weather conditions relevant to the area(s) in which it provides transmission service. These forecasts provide information on dry bulb temperatures, cloud cover, dew point, and wind speed.

Once the load forecast file is created, it is submitted to Aces Power Marketing (ACES) via an FTP connection. ACES then relays the file to LG&E/KU Transmission Balancing Authority (BA) who in turn uses an internal automatic process to submit the unaltered OMU forecast (hourly) to the TVA RC as a standalone file.