Load Profiles

Each customer of a Retail Electric Supplier (RES) with a non-interval meter has a load profile class designation corresponding to the load profile used for settlement.

Ameren has adopted a dynamic load profiling method that uses statistical models of static load research data. These models reflect changes in loads associated with day-of-the-week (e.g. Monday through Sunday), holidays (e.g. Christmas, Memorial Day, etc.), hours of daylight, and temperature conditions (i.e. daily maximum and minimum dry bulb temperatures). Ameren uses these load forecasting models and the actual values for the independent variables in conjunction with actual customer usage to calculate hourly profiles for settlement purposes.

Applying the RES' customer's billing cycle month consumption to the appropriate class profile for the same period results in an hourly usage profile for the customer. When creating the individual customer load profiles, the settlement system ensures that the sum of the hourly measurements equals the monthly billing cycle measurement.

Load Profile Classifications

Background

Ameren assigns load profile classifications at the service point level (not the account level). This means that if an account has multiple electric service points (e.g. an account with a DS2 service point, a DS3 service point, and a DS5 service point) then each service point will be assigned its own load profile classification.

Load profile classifications are only assigned to electric service points that are scalar (non-interval) metered. Interval metered service points do not have load profile classification assignments.

High and low temperatures are used as input variables to fourteen of the sixteen settlement load profile models. The two exceptions are the LITE (lighting load profile classification and the CSTM (Cut Straight Through Meter) load profile classification. Because each Ameren Illinois Rate Zone uses temperature data from a different city or cities, the resulting output settlement load profiles differ by Ameren Illinois Rate Zones. Thus, while there are 16 unique load profile classifications, there are a total 57 settlement load profile products - 4 for each of the 14 load profile models that use temperatures and 1 for the LITE load profile model. Note that CSTM does not have a load profile model since it represents unmetered constant-use load.

Immediately below is a breakdown of the sixteen load profile classifications. At the bottom of this page is a listing of the Ameren Illinois service territories and their respective city or cities used for high/low temperature data.

DS1 - Residential Service Points

- RESDHH - High summer use; High winter use
- RESDHL - High summer use; Low winter use
- RESDLH - Low summer use; High winter use
- RESDLL - Low summer use; Low winter use

DS2 - Non-Time of Use Commercial & Industrial Service Points

- DS2HH - High summer use (> 5000 kWh); High winter use (> 4700 kWh)
- DS2HL- High summer use (> 5500 kWh); Low winter use (0 - 4700 kWh
- DS2LH - Low summer use (0 - 5500 kWh); High winter use (> 4700 kWh)
- DS2LL - Low summer use (0 - 5500 kWh); Low winter use (0 - 4700 kWh)
- CSTM - Assigned to all unmetered, constant-use DS2 service points

In the first four DS2 load profile classifications above, summer is defined as the months of June, July, August, and September. Winter is defined as the months of December, January, and February.

DS3 - Time of Use Commercial & Industrial Service Points

- DS3HH - Load factor > 60%; Summer peak energy percentage > 45%
- DS3MH - Load factor > 40% and < 60%; Summer peak energy percentage > 45%
- DS3LH - Load factor < 40%; Summer peak energy percentage > 45%
- DS3HL - Load factor > 60%; Summer peak energy percentage < 45%
- DS3ML - Load factor > 40% and < 60%; Summer peak energy percentage < 45%
- DS3LL - Load factor < 40%; Summer peak energy percentage < 45%

The load factor used in determining DS3 service point load profile classifications is a twelve month load factor. Load factor is the total energy consumed in a given time period divided by the peak demand during that time period multiplied by the number of hours in the time period. For example, the formula for calculating the load factor for a twelve month period of time is:

Load Factor = Total Energy / (Peak Demand * 8760 hours)

The summer peak percentage used in determining DS3 load profile classifications is the percentage of energy used during on-peak periods of the four summer months (June, July, August, and September) to the total energy used for the four summer months.

DS5 - Lighting Service Points

- LITE - Assigned to all DS5 service points

High and low temperatures used as input variables to the settlement load profile models are assigned to each Ameren Illinois service territory as follows:

- Ameren Illinois Rate Zone II - assigned Peoria, IL temperatures
- Ameren Illinois Rate Zone I - assigned Springfield, IL temperatures
- Ameren Illinois Rate Zone I (Metro East) - assigned St. Louis, MO temperatures
- Ameren Illinois Rate Zone III - assigned Decatur, IL (35%), Belleville, IL (50%), and Peoria, IL (15%) temperatures