



Short Term Load Forecasting application is based on matching historical load and weather data. The historical data set consists of hourly samples of load, dry bulb temperature, relative humidity, wind speed and cloud cover. A weather forecast editor allows you to enter hourly weather forecasts for up to 24 hours and daily forecasts for up to a month.

You can customize the forecasting process in multiple independent load areas, each with its own weather pattern. Via the Load Forecast Editor, you define for each load area:

- Annual load growth
- Weighting factors for matching
- Equivalent temperature tables (for humidity and wind chill)
- Hour for automatic generation of 24-hour forecast

Using the weighting factors given, and taking day types, holidays and annual load growth into account, the matching algorithm looks for the five best (least square error) matches for the current 24-hour load and weather trend plus the 24-hour load forecast. Weather inertia is accounted for by the fact that the previous 24-hour load/weather trend is included in the matching process.

The forecasting algorithm then takes the five best historical matches, corrects them for weather differences using correction factors that are seasonal and both time and temperature dependent, and averages the resulting load curves to produce the forecast. By using the equivalent temperature tables, the algorithm includes the effects of humidity and wind chill in its temperature corrections. The set of weather correction factors is then used to turn the best-match curves into a forecasted load curve.