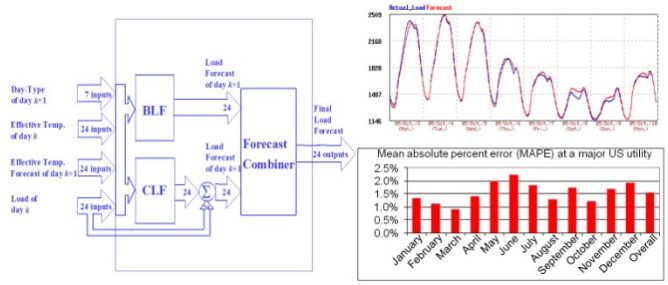
Artificial Neural Network Short Term Load Forecaster (ANNSTLF) Maintenance and Support



ANNSTLF Block Diagram and Sample Results

- A load forecasting tool to continually address the changing needs of the electric power system
- New techniques may lead to ways of improving safety and maintaining affordable pricing

Background, Objectives, and New Learnings

Electric power short-term load forecasting (next hour and hourly for next 35 days) is very important to the utilities and the public. Accurate models must be designed to predict the needed power on an hourly or sub hourly period in order for the purchase of necessary power. Lack of necessary power may result in outages or under-voltage conditions. Inadequate forecasting may lead to increased generation costing from the grid, which may lead to higher rates for the public. Having an accurate load hourly, load forecasting tool may help to ensure the reliability of power delivery to the public and may improve the costing basis of that delivery. ANNSTLF is an EPRI-developed short-term load forecaster and is built upon neural net technology to achieve leading accuracy.

The objective for ANNSTLF is to continually address the changing needs of the electric power system. Investigation into new techniques is needed to meet the changing power system characteristics. The new techniques may lead to ways of improving safety and lowering costs. This is accomplished by testing new features to see if they work and if they can improve accuracy results. Once testing of new features is complete, those features that successfully meet the new environment demands are released to all participants. If the features for accuracy and hourly forecasting lose accuracy, then corrective analysis is begun within 24 hours and corrected as soon as identified and tested.

With the evolution of the electric power grid, it is recognized that a forecasting tool such as ANNSTLF, which accurately forecasts hourly loads, is needed. Participation in this project may help to further the development and expand the capabilities of the ANNSTLF Software.

Benefits

The ANNSTLF tool can offer utilities a number of benefits. These may include:

- Improved load forecasting accuracy
- Improved ability to meet the changing power system characteristics
- Improved public good by improving safety and maintaining affordable electricity prices

Project Approach and Summary

EPRI will provide participating utilities with ANNSTLF maintenance and support during the participation period. Maintenance and support includes (1) support during daily use of the software, and (2) any normal upgrade version released within the participation period. The maintenance and support covers all the user regions and includes temperature and humidity forecasters if applicable.

Deliverables

ANNSTLF educational seminars, training workshops and user group meetings: Periodic educational seminars, training workshops and user group meetings to advance knowledge regarding ANNSTLF.

Price of Project

There is tiered pricing for this project. Please contact an EPRI account executive.

Project Status and Schedule

The duration of the maintenance and support covers a 12-month period.

Who Should Join

ANNSTLF is a vital tool for utilities, transmission operators, independent system operators, and power marketers.

Transmission providers employ ANNSTLF to better calculate available transfer capability. Independent system operators can use ANNSTLF for enhanced generation schedule functions. Power Marketers and load aggregators can use the accurate load forecasts to increase the profitability of their energy transactions by avoiding unnecessary purchases and achieving better margins.

Contact Information

For more information, contact the EPRI Customer Assistance Center at 800.313.3774 (askepri@epri.com).

Technical Contact

Penn Markham at 865.218.8150 (pmarkham@epri.com).

Product ID: 1024433 Project ID: 1-068359 January 2016

Electric Power Research Institute
3420 Hillview Avenue, Palo Alto, California 94304-1338 • PO Box 10412, Palo Alto, California 94303-0813 USA
800.313.3774 • 650.855.2121 • askepri@epri.com • www.epri.com