

Improving Forecast Accuracy to more than 95% at Dominion East Ohio



» success story

THE CHALLENGE

Dominion East Ohio is the largest gas distribution subsidiary of Dominion, one of the country's largest energy producers in the Midwest, Mid-Atlantic, and Northeast regions. Dominion East Ohio serves more than 1.2 million residential, commercial, and industrial natural gas customers in 400 eastern and western Ohio communities.

Dominion is committed to safe, reliable, and cost-effective operations. To continue improving in these areas, it needed a tool to effectively anticipate the requirements of natural gas customers on its distribution network. By reducing forecast development time and improving accuracy, Dominion's operational staff would be ready to more quickly react to demand fluctuations that affect both customer satisfaction and financial results.

Dale Rusnak, a Pipeline Efficiency Manager with Dominion, described the problem: "Our daily forecast for energy send-out was time-consuming and labor intensive. We needed a solution that could automate more of our forecast processes."

THE SOLUTION

Dominion evaluated a number of products by reviewing forecasts based on historical data.

Dominion found that Energy Solutions' Gas Load Forecaster not only met but surpassed Dominion's requirements in all key areas. Both Energy Solutions' industry experience and technical expertise were essential to Dominion's selection of the Gas Load Forecaster.

"Dominion chose Energy Solutions because of proven accuracy and the robustness of the product, the comprehensive administrative functions, and overall user-friendliness," said Rusnak.

"We liked that Energy Solutions' Gas Load Forecaster was designed for the gas industry"

The Gas Load Forecaster uses Energy Solutions' J-NeuralNet to forecast volume and flow targets for up to five days in advance at meters along the pipeline network. This neural network discovers patterns in complex pipeline operations resulting from weather fluctuations and economic factors. Based on past activity, the network develops and improves algorithms for predicting future demand in a process called training.

The Gas Load Forecaster is periodically trained to provide the most precise demand forecast possible for every meter on a daily or even hourly basis. Changes to weather predictions, economic conditions, or other factors

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generate a new set of forecasts. Pipeline managers like Dale Rusnak can have accurate, updated projections to use in planning operations far more quickly than before. And the pipeline staff is better prepared to react to changes in demand based on time, weather, or economic factors.

Rusnak said, "The performance of the product and the support we have received from Energy Solutions have exceeded all expectations. We found the Gas Load Forecaster to be very user-friendly, particularly in setting up and manipulating various databases."

THE RESULTS

Dominion East Ohio went live with the Gas Load Forecaster in 2001 with immediate, favorable results. Dale Rusnak attributes both dramatic increases in load forecasting efficiency and improved client relations to Energy Solutions and the Gas Load Forecaster. Rusnak stated, "Now we are forecasting with better than 95% accuracy."

Energy Solutions is pleased with the results Dominion has achieved with the Gas Load Forecaster. "Improving forecast accuracy helps

our customers satisfy their own customers," Gregers Larnaes, CEO of Energy Solutions, said. "It's one way we help companies manage pipelines better."

The near-term significant improvement in forecast accuracy convinced Dominion to roll out Energy Solutions' technology in two other areas: West Ohio and Dominion Peoples. While the Dominion Gas Supply Managers use the forecasting functions, engineering departments utilize the data for their studies. Dominion plans to expand the Gas Load Forecaster into their predictive and optimization models in the near term. "Dominion is pleased with the results from its investment in the Gas Load Forecaster," Rusnak said.

According to Rusnak, Dominion's planners have come to rely on the Gas Load Forecaster. "Energy Solutions gives us the tools that enable our planners and engineers to make better decisions."

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