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Direct Testimony and Schedules
John M. Goodenough

Before the Minnesota Public Utilities Commission
State of Minnesota

In the Matter of the Application of Northern States Power Company for Authority to Increase Rates for Natural Gas Service in Minnesota

Docket No. G002/GR-25-356
Exhibit___(JMG-1)

# Gas Customer and Throughput Forecast

October 31, 2025

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## Schedules

## I. INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND OCCUPATION.

A. My name is John M. Goodenough. I am the Director of the Sales, Energy, and Demand Forecasting department for Xcel Energy Services Inc. (XES), which is the service company subsidiary of Xcel Energy Inc. (XEI).

Q. PLEASE SUMMARIZE YOUR QUALIFICATIONS AND EXPERIENCE.

A. I graduated from the University of Delaware with a Doctor of Philosophy degree in Economics. I also hold a Master of Arts degree in Economics from the University of Delaware and a Bachelor of Arts degree in Economics from the University of Maryland. I have worked in a sales forecasting role since 2007. I began my career in forecasting as a Regulatory Affairs Analyst at Pepco Holdings, Inc. from 2007–2010, followed by a role as a Principal Analyst at Baltimore Gas and Electric from 2010–2014. I worked as an Energy Markets Specialist at Southern California Edison from 2014–2016 and as a Manager, Energy and Revenue Forecasting and Analysis at Arizona Public Service from 2016–2019. I started my prior role as Manager, Energy Forecasting for Xcel Energy in October 2019 and was promoted to my current role as Director of Sales, Energy, and Demand Forecasting in May 2022. My statement of qualifications is included as Exhibit___(JMG-1), Schedule 1.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. I support the forecast of natural gas customers and throughput for Northern States Power Company – Minnesota (NSPM or the Company), doing business as Xcel Energy, for the test year period of January 1, 2026 through December 31, 2026. This forecast forms the basis for the Company's revenue forecast in this proceeding. I also support the Company's proposal to use actual 2026 weather normalized sales data for purposes of setting rates for the 2026 test year.

## II. OVERVIEW

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. My testimony presents the natural gas customer count and throughput forecast for the 2026 test year. The Company projects 2026 total throughput to decrease by 2.1 percent from 2024 levels of 125,425,736 dekatherms (Dkt) to 122,792,367 Dkt due primarily to a decrease in Interdepartmental transport volumes. The number of customers are expected to increase by 1.5 percent over the same period. My testimony describes the methodology used to develop this forecast as well as the weather normalization of the sales forecast, the preparation of data used in the forecasting process, how unbilled and calendar month sales are calculated, and adjustments made to the test year forecast. As I discuss, the Company's forecast is based on sound statistical methodologies and provides a reasonable estimate of 2026 Dkt throughput and customer counts, supports the Company's revenue projections.

While I support the reasonableness of the 2026 sales forecast for purposes of setting rates in this proceeding, the Company proposes in this case to determine the test year 2026 revenue deficiency based on actual weather normalized sales and customer counts in 2026, with final base rates for the test year set using actual weather normalized sales and customers counts for 2026. This proposed sales-true up is consistent with the approach that was approved by the

Commission in the Company's two most recent natural gas rate cases, Docket Nos. G002/GR-21-678 and G002/GR-23-413.

Q. PLEASE EXPLAIN WHAT THE TERM "THROUGHPUT" MEANS.

A. The Company provides both gas sales and transportation services. Gas sales include customers who purchase their natural gas supply from the Company. Gas Transportation customers purchase their gas from third-party suppliers, and that gas is then shipped across the Company's distribution system. Throughput refers to the total volume of gas that flows through the Company's distribution system, including both gas sold by the Company and gas transported on behalf of others.

Q. HOW ARE CUSTOMER AND THROUGHPUT FORECASTS USED IN THIS PROCEEDING?

A. The customer and throughput forecasts are used to calculate the following:

1) The monthly and annual natural gas supply requirements;
2) Test year revenue under present rates; and
3) Test year revenue under proposed rates.

Q. PLEASE EXPLAIN THE IMPORTANCE OF ACCURATE CUSTOMER AND THROUGHPUT FORECASTS IN A RATE CASE PROCEEDING.

A. In a rate case proceeding, accurate customer and throughput forecasts ensure just and reasonable rates for customers by allowing the Company to fairly and accurately recover its costs, no more and no less. In addition, forecasts are used for purposes other than setting rates, such as gas capacity planning, where it is important that the Company has sufficient resources to meet customer needs over time.

Q. HAS THE COMPANY COMPLIED WITH ALL PREFILING COMPLIANCE REQUIREMENTS RELATED TO THE CUSTOMER AND THROUGHPUT FORECAST IN THIS PROCEEDING?

A. Yes. In Docket Nos. No. E002/GR-08-1065 and E002/GR-10-971, the Minnesota Public Utilities Commission (Commission) ordered the Company to make a filing providing the data used in its test year sales forecasts at least 30 days prior to filing a general rate case. The Company complied with this requirement by filing the required information on September 26, 2025 in this docket. The information was e-filed through the Commission's electronic filing system. I discuss the compliance requirements in more detail in Section VII of my testimony.

Q. ARE THERE DEFINED TERMS YOU PLAN TO USE IN YOUR TESTIMONY?

A. Yes. The definitions of terms that are included in my testimony are provided in Exhibit___(JMG-1), Schedule 2.

## III. CUSTOMER, SALES, AND THROUGHPUT TRENDS

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?

A. The purpose of this section of my Direct Testimony is to provide relevant background regarding the Company's natural gas service territory, natural gas customer categories, and historical customer and Dkt sales and throughput trends from 2019 to 2024.

Q. WHAT GEOGRAPHICAL AREA DOES THE COMPANY'S NATURAL GAS THROUGHPUT FORECAST REFLECT?

A. My Direct Testimony and exhibits reflect natural gas throughput and customers in Xcel Energy's Minnesota service territory.

Q. IS THE COMPANY'S GAS SERVICE TERRITORY THE SAME AS ITS ELECTRIC SERVICE TERRITORY?

A. No. The Company's Minnesota gas service territory is smaller than the electric service territory. As of December 2024, the Company had about 492,000 gas customers and 1.38 million electric customers in the State of Minnesota.

Q. PLEASE DESCRIBE THE CUSTOMER CATEGORIES INCLUDED IN THE COMPANY'S NATURAL GAS CUSTOMER AND THROUGHPUT FORECASTS.

A. The following customer classes comprise the Company's gas forecast:

**Residential**

- *Residential* – residential firm service.

**Commercial**

- *Small Commercial* – commercial and industrial firm service having annual usage of less than 600 Dkt.
- *Large Commercial* – commercial and industrial firm service having annual usage of 600 Dkt or more.

**Demand**

- *Small Demand* – firm commercial and industrial service for demand-billed customers having a maximum peak day demand of less than 50 Dkt.
- *Large Demand* – firm commercial and industrial service for demand-billed customers having a maximum peak day demand of 50 Dkt or more.

**Interruptible**

- *Small Volume Interruptible* – interruptible service to commercial and industrial customers having a maximum peak day demand less than 200 Dkt.
- *Medium Volume Interruptible* – interruptible service to commercial and industrial customers having a maximum peak day demand greater than 200 Dkt and less than 5,000 Dkt.
- *Large Volume Interruptible* – interruptible service to commercial and industrial customers having a maximum peak day demand greater than or equal to 5,000 Dkt.
- *Interdepartmental Sales* – natural gas sales made internally to Xcel Energy facilities for purposes other than the generation of electricity, such as heating Service Centers.
- *Generation Sales* – natural gas sales made internally to Xcel Energy facilities for the generation of electricity.

**Transportation**

- *Firm Transportation* – firm transportation service for customers whose peak daily demand requirement is 50 Dkt or more per meter location.
- *Interruptible Transportation* – interruptible transportation service with rate based on peak day demand: Small – less than 200 Dkt; Medium – more than 200 Dkt and less than 5,000 Dkt; Large – more than 5,000 Dkt.
- *Negotiated Transportation* – transportation service for commercial/industrial customers for whom physical bypass of the Company's distribution system is economically feasible and practical.
- *Interdepartmental Transportation* – firm transportation service to Xcel Energy facilities for the generation of electricity.

Q. WHAT TRENDS ARE YOU SEEING IN THE COMPANY'S CUSTOMER COUNTS FROM 2019 TO 2024?

A. The Company has seen moderate growth in the number of Minnesota natural gas customers over the past five years. The total number of customers increased at an average annual rate of 1.1 percent from 2019 through 2024. Residential customers, which accounted for 92.5 percent of total customers in 2024, have averaged 1.2 percent growth per year over the past five years.

Q. WHAT FACTORS HAVE BEEN DRIVING THE GROWTH IN RESIDENTIAL CUSTOMER COUNTS SINCE 2019?

A. Residential customer counts are highly correlated with population and households. The moderate growth rate in the number of Residential customers since 2019 is the result of the growth in population and households over this same time period.

Q. WHAT TRENDS ARE YOU SEEING IN THE COMPANY'S NATURAL GAS THROUGHPUT FROM 2019 TO 2024?

A. The Company's total natural gas throughput has decreased on average 0.05 percent per year from 2019 to 2024, after normalizing for weather. Total Retail sales have decreased an average of 0.5 percent per year. The largest area of growth has been in the Commercial sector, with total Commercial volumes increasing an average of 1.1 percent per year during this time. The average annual percent change in customers and throughput by customer class from 2019 through 2024 is shown in Table 1.

**Table 1**
**Average Annual Percent Change in Customers and Throughput**

| **Customer Class** | **Average Annual Change 2019 to 2024** | | **2024 % of Total Throughput** |
|---|---|---|---|
| | **Number of Customers** | **Weather Normalized Throughput** | |
| Residential | 1.2% | 0.1% | 30.4% |
| Total Commercial | 0.6% | 1.1% | 18.9% |
| Total Demand | 0.8% | -0.8% | 2.3% |
| **Total Firm** | **1.1%** | **0.4%** | **51.5%** |
| Total Interruptible | -6.0% | -6.2% | 6.4% |
| **Total Retail** | **1.1%** | **-0.5%** | **57.9%** |
| Total Transportation | 1.6% | 0.5% | 42.1% |
| **Total** | **1.1%** | **-0.05%** | **100.0%** |

Q. PLEASE EXPLAIN WHAT TYPES OF CUSTOMERS ARE INCLUDED IN THE TOTAL TRANSPORTATION CLASS?

A. The Total Transportation class includes Firm Transportation, Interruptible Transportation, Negotiated Transportation, and Interdepartmental Transportation. Due to the small number of customers in each of these classes, I have combined them into the Total Transportation category in my Direct Testimony.

Q. WHAT FACTORS CONTRIBUTED TO THE DECREASE IN GAS RETAIL SALES FROM 2019 TO 2024?

A. Declines in the Interruptible and Demand classes offset growth in Residential and Commercial classes, leading to overall declines in Retail sales from 2019 to 2024.

## IV. 2026 TEST YEAR CUSTOMER AND THROUGHPUT FORECAST

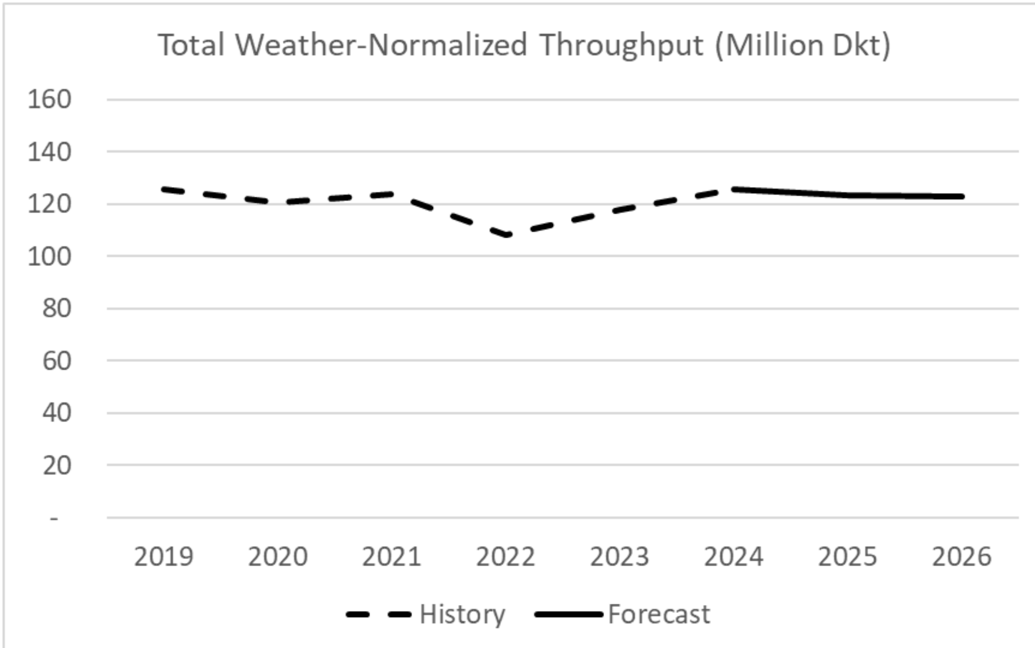
Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?

A. The purpose of this section of my Direct Testimony is to provide the Company's forecast for the 2026 test year for customer counts and total throughput for the various customer classes. The customer and gas throughput forecasts are used by Company witness Michelle M. Terwilliger to calculate the retail revenue for the 2026 test year.

Q. PLEASE SUMMARIZE THE COMPANY'S CUSTOMER COUNT AND THROUGHPUT FORECAST FOR THE 2026 TEST YEAR.

A. Our forecast indicates that the overall number of customers is expected to increase during the 2026 test year and the total natural gas throughput is expected to decrease, as shown in Figure 1 below. Specifically, the Company projects 2026 total throughput to decrease by 0.3 percent from projected 2025 levels of 123,117,992 Dkt to 122,792,367 Dkt due primarily to a decrease in Interdepartmental Transportation volumes. Customers are expected to increase by 0.7 percent over the same period. Exhibit___(JMG-1), Schedule 3 summarizes monthly Dkt and number of customers for each customer class for the 2026 test year.

**Figure 1**




Q. GENERALLY SPEAKING, TO WHAT DO YOU ATTRIBUTE THIS DECREASE IN GAS THROUGHPUT FOR 2025 AND 2026?

A. The projected decrease in throughput is a result of lower gas Transportation volumes as shown in Figure 2, which accounted for about 42 percent of the Company's natural gas throughput in 2024. Total Transportation volumes are expected to decrease 4.3 percent in 2025 and show a further decrease of 4.1 percent in 2026 due primarily to projected decreases in gas used for electric generation. As shown in Figure 3, Retail sales are expected to decrease slightly in 2025 and then increase in 2026, with 2026 Retail sales returning to 2022 levels. The Retail sales growth is primarily driven by the Residential and Commercial classes.

**Figure 2**

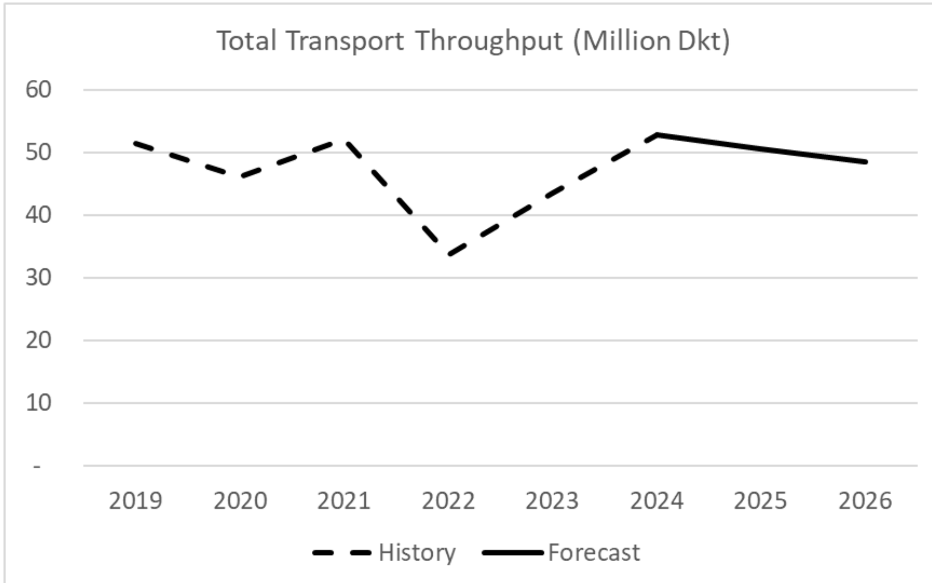
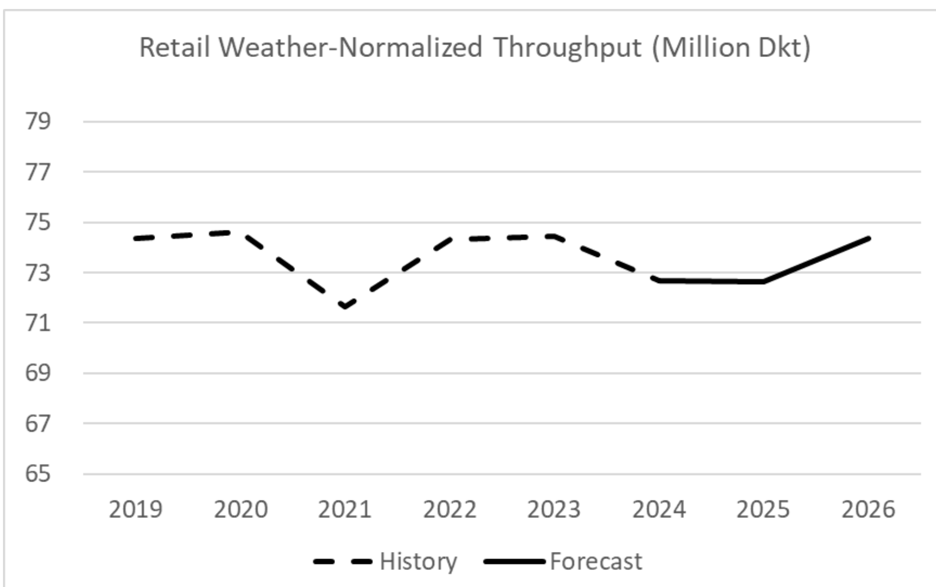



**Figure 3**




A more detailed discussion of the forecast results is provided in this section of my testimony. The forecast methodology is discussed in Section VI of my testimony.

Q. HOW DOES THE 2026 TEST YEAR NATURAL GAS CUSTOMER GROWTH COMPARE WITH HISTORICAL CUSTOMER GROWTH?

A. As shown in Table 1 above, customer growth has averaged 1.1 percent per year from 2019 through 2024. The average annual increase in number of customers over this time was 5,291 customers per year. From 2024 to 2026, the number of customers is expected to increase by a total of 7,203 customers, or about 3,600 customers (0.7 percent) per year.

Q. HOW DOES THE 2026 TEST YEAR NATURAL GAS THROUGHPUT COMPARE WITH 2024 WEATHER NORMALIZED GAS THROUGHPUT?

A. Total natural gas Retail sales and Transportation volumes are expected to decrease 2.1 percent during the 2026 test year compared to 2024. The main driver of this decrease is an 8.2 percent decrease in Transportation volumes. Total firm sales are expected to increase 2.6 percent in the 2026 test year compared to 2024. Within firm sales, Residential sales are expected to increase 3.3 percent while Commercial sales are expected to increase 1.5 percent.

Table 2 provides the Company's weather normalized Retail sales and Transportation volumes by customer class for 2024 and the test year 2026, and the growth rate for 2026 as compared to 2024.

**Table 2**
**Weather Normalized Throughput by Class (Dkt)**

| Customer Class | 2024 Throughput | 2026 Throughput | Percent Change | Average Annual Percent Change |
|---|---|---|---|---|
| Residential | 38,162,312 | 39,424,795 | 3.3% | 1.6% |
| Total Commercial | 23,666,691 | 24,016,129 | 1.5% | 0.7% |
| Total Demand | 2,823,692 | 2,875,341 | 1.8% | 0.9% |
| **Total Firm** | **64,652,694** | **66,316,264** | **2.6%** | **1.3%** |
| Total Interruptible | 8,022,056 | 8,034,956 | 0.2% | 0.1% |
| **Total Retail** | **72,674,751** | **74,351,221** | **2.3%** | **1.1%** |
| Total Transportation | 52,750,985 | 48,441,146 | -8.2% | -4.2% |
| **Total** | **125,425,736** | **122,792,367** | **-2.1%** | **-1.1%** |

Q. WHAT IS DRIVING THE DECREASE IN TRANSPORTATION VOLUMES IN THE 2026 TEST YEAR?

A. The decrease in Total Transportation volumes is driven by a decrease in Interdepartmental Transportation volumes, which are forecasted to decrease by **[PROTECTED DATA BEGINS PROTECTED DATA ENDS]** in 2026 as compared to 2024.

Q. WHAT IS DRIVING THE INCREASE IN RESIDENTIAL SALES IN THE 2026 TEST YEAR AS COMPARED TO 2024?

A. The increase in Residential sales in 2026 is driven by two main factors. First, the number of Residential customers is expected to grow by 1.8 percent from 2024 to 2026. Second, residential use-per-customer is expected to increase from 2024 levels.

## V. SALES FORECAST TRUE-UP PROPOSAL

Q. IS THE COMPANY PROPOSING A TEST YEAR SALES TRUE-UP IN THIS PROCEEDING TO USE ACTUAL WEATHER NORMALIZED SALES DATA FOR SETTING RATES FOR THE 2026 TEST YEAR?

A. Yes. Consistent with the Commission-approved settlement agreements in the Company's last two gas rate cases (Docket Nos. G002/GR-21-678 and G002/GR-23-413), the Company proposes to use actual weather normalized sales data for setting rates for the 2026 test year. The sales true-up would use the same methodology employed by the Company in its last gas rate case. In particular, the Company proposes to update the test year revenue deficiency based on actual weather normalized sales and customer counts in 2026, with final base rates for the test year set using actual weather normalized sales and customers counts for 2026.

## VI. FORECASTING METHODOLOGY

Q. PLEASE DESCRIBE IN GENERAL TERMS THE METHODS USED TO FORECAST THROUGHPUT AND CUSTOMER COUNTS FOR THIS RATE CASE.

A. The 2026 test year throughput forecast was completed in the summer of 2025 and was based on actual customers and throughput through May 2025. The Sales, Energy, and Demand Forecasting department coordinated the gas throughput and customer forecast preparation using a combination of econometric and statistical forecasting techniques and analyses to develop the throughput and customer forecasts.

Q. HOW WERE THE SALES FORECASTS DEVELOPED FOR THE RESIDENTIAL, COMMERCIAL, SMALL VOLUME INTERRUPTIBLE, AND MEDIUM VOLUME INTERRUPTIBLE CUSTOMER CLASSES?

A. Regression models were developed as the foundation for the sales forecasts of the Residential, Small Commercial, Large Commercial, Small Volume Interruptible, and Medium Volume Interruptible customer classes. The regression models were developed using the Metrix ND[1] software program which is commonly used in the utility industry. Regression techniques are very well-known, proven methods of forecasting and are commonly accepted by forecasters throughout the utility industry. This method provides reliable, accurate projections; accommodates the use of predictor variables, such as economic or demographic indicators and weather; and allows clear interpretation of the model. The use of regression modeling is a standard approach in the utility industry, and Xcel Energy has been using these types of regression models since 1991.

Monthly sales forecasts for these customer classes were developed based on regression models designed to define a statistical relationship between the historical sales and independent predictor variables such as economic and demographic indicators, historical number of customers, and historical weather (expressed in heating degree days (HDD)). The modeled relationships were then simulated over the forecast period by assuming normal weather (expressed in terms of 20-year-averaged HDD) and the projected levels of the other independent predictor variables.

[1] Metrix ND 7.0, Copyright © 1997-2020, Itron, Inc., http://www.itron.com

Q. DOES THE COMPANY USE BINARY VARIABLES IN THE REGRESSION MODELS?

A. Yes. Binary variables are used to help the models account for outliers or step changes in the historical data associated with another variable. Generally, a forecast is initially developed without any binary variables; they are added later as deemed advisable to improve the overall model fit or monthly pattern of the forecast. Binary variables have been included in both the Company's and the Department's models used to develop sales and customer forecasts in prior rate cases.

Q. WHAT PROCESS WAS USED TO FORECAST SALES AND VOLUMES IN THE REMAINING CUSTOMER CLASSES?

A. In the Demand, Interdepartmental Sales, Large Volume Interruptible, Firm Transportation, Interruptible Transportation, and Negotiated Transportation classes, natural gas use per customer is high, the numbers of customers is small, and the end uses are much more varied. For these customer classes, natural gas sales volumes were forecasted based on an analysis of historical trends by month. The test year throughput forecast for Interdepartmental Transportation volumes was an output from the Company's electric production cost model. The forecast for Generation Sales is a combination of output from the Company's electric production cost model.

Q. WHAT IS THE COMPANY'S ELECTRIC PRODUCTION COST MODEL AND HOW IS IT USED TO FORECAST GAS VOLUMES FOR A PORTION OF THE TRANSPORTATION CLASS?

A. The model is PLEXOS, which simulates generation plant dispatch based on the Company's electric forecast. The model then determines the amount of natural gas used at the gas-fired plants based on their expected dispatch.

Q. WERE ANY VOLUMES ASSOCIATED WITH OFF-SYSTEM SALES INCLUDED IN THE FORECAST?

A. No. Xcel Energy has no off-system sales; therefore, no such volumes were included in the forecast.

Q. WHAT PROCESS WAS USED FOR FORECASTING THE NUMBER OF CUSTOMERS?

A. The number of customers by customer class for the Residential and Small Commercial customer classes is forecasted using demographic data in regression models. The number of customers for the remaining customer classes is forecasted based on an analysis of historical trends. The historical number of customers by class is derived from the Company's billing system.

Q. HOW MANY TRANSPORTATION CUSTOMERS ARE EXPECTED IN THE TEST YEAR?

A. There are expected to be a total of 29 Transportation customers in the 2026 test year, including the four Xcel Energy facilities counted as Interdepartmental Transportation customers. This is the same as the number of Transportation customers in May 2025.

Q. WHAT IS THE SOURCE OF WEATHER DATA?

A. The weather data used in the forecast was obtained from the National Oceanic and Atmospheric Administration (NOAA) Minneapolis-St. Paul International Airport weather station. Eight temperature readings per day were obtained, and the average daily temperature was determined by averaging the eight temperature readings. HDD were calculated for each day by subtracting the average daily temperature from 65 degrees Fahrenheit. For example, if the average daily temperature was 45 degrees Fahrenheit, then 65 minus 45, or 20 HDD, were calculated for that day. If the average daily temperature was greater than 65 degrees Fahrenheit, then that day recorded zero HDD. Normal daily HDD were calculated by averaging 20 years of daily HDD using data from 2005 to 2024.

Q. WHAT WAS THE COMPANY'S SOURCE OF ECONOMIC AND DEMOGRAPHIC DATA?

A. Historical and forecasted economic and demographic variables for Minnesota, the Minneapolis-St. Paul metropolitan area, and the U.S. were obtained from IHS Markit, a respected economic forecasting firm frequently relied on by forecasting professionals. These variables include population and households. This information is used to determine the historical relationship between customers and sales, and economic and demographic measures. The Company used the most current economic and demographic data available from IHS Markit at the time of modeling.

Q. WHY DID YOU CHOOSE TO USE IHS MARKIT'S DATA RATHER THAN PUBLIC SOURCES?

A. We prefer to use IHS Markit over public sources because IHS Markit provides forecasts of various economic and demographic indicators, while the publicly-available information is available only on a historical basis. The Company is not purchasing historical data from IHS Markit but rather is paying for IHS Markit's forecasting service. Obtaining this information from a third-party vendor also mitigates any potential appearance of bias that might exist if the Company developed its own economic and demographic forecasts.

Q. WHAT STEPS HAS THE COMPANY TAKEN TO VALIDATE IHS MARKIT'S DATA?

A. As part of the information provided to the Commission and the Department 30 days prior to filing this general rate case, we included documentation showing how the historical and forecasted economic and demographic variables or indicators for each variable are calculated and derived. In addition, we identified the original source of the data, and, whenever the data was available via the internet compared the historical data provided by IHS Markit to the original source data. In instances where the original source data and the data provided by IHS Markit differed, we worked with IHS Markit to obtain satisfactory explanations for the variances.

### A. Statistically Modeled Forecasts

Q. PLEASE DESCRIBE THE REGRESSION MODELS AND ASSOCIATED ANALYSIS USED IN XCEL ENERGY'S STATISTICAL PROJECTIONS OF SALES AND CUSTOMERS.

A. The regression models and associated analysis used in Xcel Energy's statistical projections of sales are provided in Exhibit___(JMG-1), Schedule 4, and the regression models and associated analysis used in Xcel Energy's statistical projections of customers are provided in Exhibit___(JMG-1), Schedule 5. These schedules include, by customer class, the models with their summary statistics and output and descriptions for each variable included in the model.

Q. DID XCEL ENERGY EMPLOY VALIDITY TESTS OR OTHER TECHNIQUES TO EVALUATE THE PLAUSIBILITY OF ITS QUANTITATIVE FORECASTING MODELS AND SALES PROJECTIONS?

A. Yes. We used several quantitative and qualitative validity tests that are applicable to regression analysis.

The coefficient of determination (R-squared) test statistic is a measure of the quality of the model's fit to the historical data. It represents the proportion of the variation of the historical sales around their mean value that can be attributed to the functional relationship between the historical sales and the explanatory variables included in the model. If the R-squared statistic is high, the model is explaining a high degree of the historical-sales variability. The regression models used to develop the sales forecasts demonstrate very high R-squared statistics, ranging between 0.915 and 0.997. The regression models used to develop the customer forecasts demonstrated very high R-squared statistics, ranging between 0.933 and 1.000.

The t-statistics of a variable indicates the degree of correlation between that variable's data series and the sales data series being modeled. The t-statistic is a measure of the statistical significance of each variable's individual contribution to the prediction model. Generally, to be considered statistically significant at the 90 percent confidence level, the absolute value of each t-statistic should be greater than 1.65. This standard was applied in the development of the regression models used to develop the sales forecast. However, including a variable with a lower level of significance is statistically acceptable and does not necessarily make the model invalid or result in an unreliable forecast. The final regression models used to develop the sales forecast tested satisfactorily under the 90 percent confidence level.

Q. HOW ELSE DID THE COMPANY EVALUATE THE REASONABLENESS OF ITS QUANTITATIVE FORECASTING MODELS AND SALES PROJECTIONS?

A. We inspected each model for the presence of first order autocorrelation, as measured by the Durbin-Watson (DW) test statistic. Autocorrelation refers to the correlation of the model's error terms for different time periods. For example, an overestimate in one period is likely to lead to an overestimate in the succeeding period under the presence of first order autocorrelation. Thus, when forecasting with a regression model, absence of autocorrelation between the residual errors is very important. The DW test statistic ranges between 0 and 4 and provides a measure to test for autocorrelation. In the absence of first order autocorrelation, the DW test statistic equals 2.0. With one exception, the final regression models used to develop the sales forecast tested satisfactorily for the absence of first order autocorrelation, as measured by the DW test statistic. The one exception was the model for Minnesota Residential customer counts, which did show some signs of autocorrelation. However, this model was still considered acceptable because (1) it has a high R-squared, (2) it includes an economically logical predictor, (3) it has a very low Mean Absolute Percentage Error (MAPE), (4) its t-statistics were all above 1.65, suggesting statistical significance at the 90 percent confidence level, and (5) the forecasted values appear reasonable.

Graphical inspection of each model's error terms (*i.e.,* actual less predicted) was used to verify that the models were not mis-specified, and that statistical assumptions pertaining to constant variance among the residual terms and their random distribution with respect to the predictor variables were not violated. Analysis of each model's residuals indicated that the residuals were homoscedastic (constant variance) and randomly distributed, indicating that the regression modeling technique was an appropriate selection for each customer class's sales that were statistically modeled.

The statistically modeled sales forecasts for each customer class have been reviewed for reasonableness as compared to the respective monthly sales history for that class. Graphical inspection reveals that the patterns of the forecast fit well with the respective historical patterns for each customer class. The annual total forecast sales have been compared to their respective historical trends for consistency. Similar qualitative tests for reasonableness and consistency have been performed for the customer level projections.

Q. DID THE COMPANY ADJUST THE 2026 TEST YEAR FORECAST TO ACCOUNT FOR FUTURE EXPECTED DEMAND-SIDE MANAGEMENT (DSM) IMPACTS?

A. No. In the 2017 Gas Utility Infrastructure Costs (GUIC) filing (Docket No. G002/M-16-891), the Commission directed the Company to remove an adjustment for DSM energy impacts. Beginning with the 2018 GUIC Filing (Docket No. G002/M-17-787), the Company has not included any DSM impacts in its sales forecasts.

Q. DID THE COMPANY ADJUST THE FORECASTS FOR THE IMPACTS OF BENEFICIAL ELECTRIFICATION?

A. Yes, the Residential and Commercial and Industrial forecasts were adjusted to account for the expected impacts of beneficial electrification.

**B. Normalization of Sales Forecast**

Q. HOW DID XCEL ENERGY ADJUST ITS SALES FORECAST FOR THE INFLUENCE OF WEATHER ON SALES?

A. Residential, Small Commercial, Large Commercial, Small Volume Interruptible, and Medium Volume Interruptible sales projections were developed through the application of quantitative statistical models. For each of these classes, sales were not weather adjusted prior to developing the respective statistical models. The respective regression models used to forecast sales included weather, measured in terms of HDD as an explanatory variable. In this way, the historical weather impact on historical consumption for each class was modeled through the respective coefficients for the HDD variable included in each class's model. Forecasted sales were then projected by simulating the established statistical relationships over the forecast horizon, assuming normal weather.

Forecasts for the Demand, Large Volume Interruptible, Interdepartmental Sales, Firm Transportation, Interruptible Transportation, and Negotiated Transportation classes were developed using a trend modeling approach, and, therefore, do not use HDD as an explanatory variable. With the exception of the Demand class, these customers' primary use of gas is not for space heating, and so many other factors contribute to these volumes. As a result, the weather impact due to deviation from normal weather is indistinguishable from other variables. The Demand class sales are correlated with HDD, but not with other explanatory variables that could be used to develop a forecast, and, therefore, a trend modeling approach was determined to be more appropriate.

Q. HOW WAS NORMAL WEATHER DETERMINED?

A. Normal daily weather was calculated based on the average of historical HDD for the 20-year time period 2005 to 2024. Xcel Energy's method for calculating normal weather using a 20-year period of actual data has been accepted by the Commission in several previous rate cases.[2] These normal HDD were related to the forecasted billing month in the same manner as were the actual HDD.

Q. WHAT WAS XCEL ENERGY'S MEASURE OF WEATHER, AND WHAT WAS THE SOURCE?

[2] Docket Nos. E002/GR-92-1185, G002/GR-97-1606, G002/GR-04-1511, E002/GR-05-1428, G002/GR-06-1429, E002/GR-08-1065, G002/GR-09-1153, E002/GR-10-971, E002/GR-12-961, E002/GR-13-868, E002/GR-15-826, E002/GR-19-564, E002/GR-20-273, E002/GR-21-630, G002/GR-21-678, and G002/GR-23-413.

A. As I explained previously, the measure of weather used was HDD, using a 65-degree temperature base. This information was obtained from NOAA, as measured at its Minneapolis-St. Paul International Airport weather station.

Q. IS IT APPROPRIATE TO USE THE MINNEAPOLIS-ST. PAUL WEATHER STATION TO REPRESENT XCEL ENERGY'S MINNESOTA SERVICE TERRITORY?

A. Yes, it is. 75 percent of Xcel Energy's Minnesota gas customers reside within the 14-county Minneapolis-St. Paul metropolitan statistical area. An additional 18 percent reside within approximately 100 miles of Minneapolis-St. Paul.

The coefficients for the HDD variables included in each class's model were determined based on the historical relationship between sales throughout Xcel Energy's Minnesota service territory and Minneapolis-St. Paul weather. Therefore, the coefficients accurately reflect the distribution of customers geographically within the Minnesota service territory. Since this geographic distribution is not expected to change during the 2026 test year, it is appropriate to use this historical relationship and Minneapolis-St. Paul weather.

Q. DID THE WEATHER REFLECT THE SAME BILLING-CYCLE DAYS AS THE SALES DATA?

A. Yes. The HDD were weighted by the number of times a particular day was included in a particular billing month. These weighted HDD were divided by the total billing-cycle days to arrive at average daily HDD for a billing month.

Q. HOW DOES THE WEATHER NORMALIZATION METHODOLOGY USED IN THIS CASE COMPARE WITH THE METHODOLOGY USED PREVIOUSLY?

A. The methodology we are using for this case is the same as the final methodology used in previous rate cases and GUIC filings. The weather response coefficients and normal weather values have been updated based on more current actual sales, customer counts, and weather, but no other changes have been made.

### C. Data Preparation

Q. PLEASE DESCRIBE THE DATA AND DATA SOURCES XCEL ENERGY USED TO DEVELOP THE SALES AND CUSTOMER FORECASTS.

A. Historical billing-month sales and number of customers were obtained from Xcel Energy's billing system reports, using monthly historical data from June 2010 through May 2025.

Q. WERE ANY ADJUSTMENTS MADE TO HISTORICAL SALES?

A. Yes. The Company has removed sales for **[PROTECTED DATA BEGINS PROTECTED DATA ENDS]** which previously had taken service under both the Medium Volume Interruptible and Negotiated Transportation rates, but since May 2017 has taken all service under Negotiated Transportation rates. The Company has removed sales from the Medium Volume Interruptible class in order to not overstate the sales history for that class. The Company has also removed **[PROTECTED DATA BEGINS PROTECTED DATA ENDS]** sales from the Medium Volume Interruptible class for the period of January 2012 to January 2017, due to the erroneous billing for that customer in that period. The Company removed **[PROTECTED DATA BEGINS PROTECTED DATA ENDS]** sales from the Medium Volume Interruptible class for the period of June 2010 to November 2021, after which sales go to zero. The Company removed **[PROTECTED DATA BEGINS PROTECTED DATA ENDS]** sales from the Medium

Volume Interruptible class for the period of December 2022 to May 2025. **[PROTECTED DATA BEGINS PROTECTED DATA ENDS]** took service under the Large Demand class through November 2022, after which it moved under the Medium Volume Interruptible class beginning December 2022. The sales were removed in order to not overstate the forecast for this class. The Company removed **[PROTECTED DATA BEGINS PROTECTED DATA ENDS]** sales from the Large Demand class as well for the period starting when the customer-level data was available, January 2017 to November 2022. The sales were removed in order to not overstate the sales history for this class. Finally, a reclassification of the Company's Commercial customers occurred in September 2015. As a result, the historical sales used as inputs to the Commercial regression models were adjusted for the period June 2010 through September 2015 by allocating a share of sales and customers to Small and Large Commercial classes based on a continuation backwards of a trend in the split between the two classes. This trend is calculated based on historical shares beginning in September 2015, after the final reclassification. The Company adjusted the Commercial sales in order to predict future sales more accurately for these classes.

**D. Unbilled Sales**

Q. CAN YOU EXPLAIN THE TERM "UNBILLED SALES"?

A. Yes. Xcel Energy reads gas meters each working day according to a meter-reading schedule based on 21 billing cycles per billing month. Meters read early in the month mostly reflect consumption that occurred during the previous month. Meters read late in the month mostly reflect consumption that occurred during the current month. The "billing-month" sales for the current month reflect consumption that occurred in both the previous month and the current month. Thus, billing-month sales lag calendar-month sales. Unbilled sales reflect volumes of natural gas consumed in the current month that are not billed to the customer until the succeeding month.

Q. WHAT IS THE PURPOSE OF THE UNBILLED SALES ADJUSTMENT?

A. The purpose is to align the projected revenues with the relevant projected expenses, which have been estimated on a calendar-month basis.

Q. IS XCEL ENERGY REFLECTING UNBILLED REVENUE ON ITS BOOKS FOR ACCOUNTING AND FINANCIAL PURPOSES?

A. Yes. Xcel Energy adopted this practice during fiscal year 1992 and it has been accepted by the Commission in all past rate cases.

Q. HOW WERE THE ESTIMATED MONTHLY NET UNBILLED SALES VOLUMES DETERMINED?

A. Xcel Energy determined its projected monthly net unbilled sales as the difference between the estimated monthly calendar-month sales and the projected billing-month sales. The projected billing-month sales were created using the statistical models and other forecasting methods previously described.

### E. Calendar-Month Sales Derivation

Q. HOW WERE THE ESTIMATED MONTHLY CALENDAR-MONTH SALES DETERMINED?

A. For the Residential, Small Commercial, Large Commercial, Small Demand, Large Demand, Small Volume Interruptible, and Medium Volume Interruptible classes, Xcel Energy calculated the test year calendar month sales based on the projected billing month sales. The forecasted calendar month sales were calculated in terms of the sales load component that is not associated with weather (base load), and the sales load component that is influenced by weather (total weather load). The weather was measured in terms of normal HDD, as described above. The base load sales and the total weather sales components were calculated for each class. The two components were then combined to provide the total calendar-month volumes.

The calendar-month base load component was calculated as follows:

*Step 1* The billing-month total weather load was calculated. This was accomplished by multiplying the billing-month sales weather normalization regression coefficients (defined in terms of billing-month HDD and number of customers), times billing-month normal HDD, times the projected number of customers.

*Step 2* The billing-month base load was calculated by taking the difference between the projected total billing-month sales and the billing-month total weather load (as calculated in Step 1).

*Step 3* The billing-month base load sales per billing day was determined by dividing the billing-month base load sales (from Step 2) by the average number of billing days per billing month.

*Step 4* The calendar-month base load sales were then calculated by multiplying the billing-month base load sales per billing day (from Step 3) times the number of days in the calendar month.

The calendar-month total weather load component was calculated the same way the billing-month total weather load was calculated (as described in Step 1 above). However, the calculation was performed by substituting the calendar-month sales weather normalization regression coefficient (defined in terms of calendar-month HDD and number of customers) and the calendar-month normal HDD.

The calendar-month total sales were calculated by combining the calendar-month base load and calendar-month total weather load components.

For the Large Volume Interruptible class, Xcel Energy calculated the test year calendar month sales based on historical calendar month sales. For this class, there are no total weather load sales.

The Interdepartmental Sales, Generation Sales, and Transportation classes are billed on a calendar month basis. Therefore, for these classes, the calendar month volumes equal the billing month volumes.

## VII. COMPLIANCE REQUIREMENTS

Q. PLEASE DESCRIBE THE SALES FORECAST INFORMATION PROVIDED ON SEPTEMBER 26, 2025.

A. The September 26, 2025 sales forecast pre-filing provided the data used in the test year sales forecast in compliance with the Commission's orders in Docket Nos. E002/GR-08-1065 and E002/GR-10-971, and Xcel Energy's commitment in Docket No. G002/GR-09-1153. The information provided is extensive, and includes all customer count, throughput, weather, demographic, and binary data used to develop the test year forecast, as well as the following items:

1) An explanation of the source and work papers supporting the derivation or calculation of each of these data series, as well as a description and justification for each binary variable used.
2) All regression models and results, and a description of methods used and the results for the forecasts that are not based on a regression methodology.
3) An explanation of any exogenous adjustment made to the forecast.
4) An explanation of the unbilled sales estimation process for the test year and historical time period and all data necessary to recreate the conversion, including a description of the weather response coefficients and all data necessary to recreate the coefficients, and an explanation of the calculation of calendar month weather response coefficients.
5) All data necessary to weather normalize historical calendar month sales.
6) A reconciliation between different sources for historical billing-month sales.

Q. PLEASE PROVIDE MORE DETAILS AROUND INFORMATION PROVIDED AS PART OF ITEM 1 ABOVE.

A. As part of item 1 above, the Company conducts an audit of the historical economic and demographic data accessed through IHS Markit databases. To conduct this audit, the Company accesses multiple publicly available U.S. government websites, collects the source data, compares this data to the data accessed through IHS Markit's databases, and provides explanations for any differences. The reasons for differences have been due to: 1) timing differences between when the data was accessed from IHS Markit and what is currently available on the government websites, 2) the manner in which IHS Markit converts nominal data to deflated data, or 3) the extrapolation of 2020 Census data to more recent years at the metropolitan level.

## VIII. CONCLUSION

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. I have presented the Company's forecasts of throughput and customers for the January 1, 2026 to December 31, 2026 time period. I also presented details of the methods used to develop the Dkt throughput and customer forecast and the results. I have described the steps the Company has taken to comply with all requirements resulting from previous rate cases, as well as agreements the Company has made to provide forecasting data in advance of the filing of a rate case.

The Company's goal is to produce an accurate throughput forecast to support its rate request. The Company's forecast in this case is based on sound methodologies and provides a reasonable estimate of 2026 Dkt throughput and customer counts. Therefore, the Company's forecast can be relied on for the purpose of determining the revenue requirement and final rates in this proceeding. While the Company's 2026 sales forecast is based on sound methodologies and reasonable assumptions, as described in my testimony, the Company proposes in this case to use weather normalized actuals in the 2026 test year, consistent with the approach adopted in the two most recent natural gas rate cases.

Q. In your opinion, does the Company's throughput and customer forecast provide a reasonable basis for establishing rates in the case?

A. Yes. The forecast data is a reasonable estimate of 2026 throughput and customer counts and supports the Company's revenue projections. I recommend that the Commission approve the continued use of actual 2026 weather normalized sales to set rates in this case. If the Commission does not approve the use of 2026 weather normalized actual sales, I recommend the Commission adopt my forecasts of throughput and customers, as reflected in Schedule 3, for the purpose of determining the revenue requirement and final rates in this proceeding.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

# JOHN GOODENOUGH, PHD

## EDUCATION

**PhD in Economics,** University of Delaware **2012**
Dissertation: *Economic Welfare Impacts of Real-Time Pricing and CO2 Emissions Trading: Simulation Results at the Customer Class Level for an Investor-Owned Utility*

**MA in Economics,** University of Delaware **2006**

**BA in Economics,** University of Maryland **2002**

## PROFESSIONAL EXPERIENCE

**XCEL ENERGY** **Denver, CO**
**Manager, Energy Forecasting** **10/2019-05/2022**
**Director of Sales, Energy, and Demand Forecasting** **05/2022-Present**

**Management and Leadership:**
- Manage the work and development of six employees
- Serve as company witness for sales forecasting and weather normalization in rate cases and resource plans
- Provide regulatory support for routine filings, Integrated Resource Plans, and rate cases
- Provide analytical and statistical analysis for special projects

**Load Forecasting:**
- Develop monthly short and long-term forecasts of electric customers, sales, and peak demand using time-series analysis and end-use modeling for four OpCos operating in eight states
- Sponsor projects to improve forecast accuracy and develop new forecasting tools
- Track regional economic indicators in support of forecasting models

**ARIZONA PUBLIC SERVICE (APS)** **Phoenix, AZ**
**Manager, Energy and Revenue Analysis and Forecasting** **11/2016-10/2019**

**Management and Leadership:**
- Manage the work and development of six employees
- Serve as expert on matters related to load forecasting and act as liaison to external stakeholders
- Provide regulatory support for monthly fuel cost filings, annual transmission filings, bi-annual Integrated Resource Plans, and rate cases
- Provide economic commentary for quarterly earnings release
- Provide analytical and statistical analysis for special projects

**Load Forecasting:**
- Develop monthly short and long-term forecasts of electric customers, sales, prices, and revenue using time-series analysis and end-use modeling
- Provide hourly system demand forecasts for use in medium and long-term dispatch modeling
- Develop company forecasts of customer adoption of electric vehicles and distributed generation
- Develop price elasticity models to assess customer response to changing rate design
- Track and forecast regional economic indicators in support of forecasting models

**Financial Analysis:**

- Analyze monthly financial impacts of fuel prices, plant dispatch, and plant outages
- Conduct monthly variance analysis and financial reporting
- Evaluate billing determinants and rate design impacts on company revenue

**SOUTHERN CALIFORNIA EDISON (SCE)** — **Rosemead, CA**
**Senior Energy Market Specialist, Short-Term Demand Forecasting** — **07/2014-10/2016**

**Load Forecasting:**

- Developed hourly short-term load forecasts using time-series analysis
- Created hourly prompt month load forecasts for the territory and the ISO
- Monitored short-term load forecasting errors and analyzed the impacts on procurement costs
- Developed semi-parametric econometric model for forecasting bundled load
- Created daily market bids for integrated demand response resources

**EXELON CORPORATION, BALTIMORE GAS AND ELECTRIC (BGE)** — **Baltimore, MD**
**Principal Analyst, Load Analysis and Settlements** — **06/2010-06/2014**

**Management and Leadership:**

- Supervised the work of employees in the forecasting unit
- Participated in quarterly calls with senior management explaining regional trends in energy usage and economics
- Represented BGE Load Forecasting in the PJM Load Forecasting Group
- Supported conservation and electric supply groups in policy development and goal setting
- Conducted ad-hoc analysis for senior management

**Load Forecasting and Financial Analysis:**

- Provided monthly short and long-term forecasts of gas and electric sales, customers, prices, and revenue using time-series analysis
- Developed annual gas design-day forecast
- Conducted monthly variance analyses and financial reporting

**PEPCO HOLDINGS, INC.** — **Washington, DC**
**Regulatory Affairs Analyst** — **12/2007-06/2010**

**DEPARTMENT OF ENERGY, ENERGY INFORMATION ADMINISTRATION** — **Washington, D.C.**
**Summer, 2007**
**Program Assistant**

**DEPARTMENT OF LABOR, BUREAU OF LABOR STATISTICS** — **Washington, D.C.**
**Economist** — **02/2003-08/2004**

**DEPARTMENT OF COMMERCE, BUREAU OF THE CENSUS** — **Suitland, MD**
**Survey Statistician** — **06/2002-01/2003**

## Definition of Terms

**Base Load** - Component of sales not associated with weather.

**Billing Days** - Based on the meter reading schedule for the 21 billing cycles. For example, there are approximately 651 (21 cycles * 31 days) billing days during a typical billing month period.

**Billing-Month Sales** - Billed sales based on the meter reading schedule for the 21 billing cycles.

**Calendar-Month Sales** - Estimated sales, equal to the billing month sales, adjusted for the estimated unbilled sales of the current calendar month, less the estimated unbilled sales from the previous calendar month.

**Commission** – Minnesota Public Utilities Commission.

**Company** – Northern States Power Company, doing business as Xcel Energy.

**Department** – Minnesota Department of Commerce

**Dkt** – dekatherm; measure of gas sales.

**DSM** – Demand-Side Management.

**DW Test Statistic** - Durbin-Watson test statistic; tests for the presence of first-order autocorrelation. In the absence of first-order autocorrelation, the statistic equals 2.0.

**Error Terms** - The difference between the actual values of the data series being modeled (customers or sales) and the regression model's predicted, or "fitted" values for that series. Also called Residual Terms.

**GUIC –** Gas Utility Infrastructure Costs.

**HDD -** Heating Degree Days - Measure of weather. Calculated by subtracting the average daily temperature from a base of 65 degrees Fahrenheit.

**NCE** – New Centuries Energy Inc.

**Definition of Terms (continued)**

**NOAA** – National Oceanic and Atmospheric Administration.

**Normal Weather** – the average of twenty years of historical weather.

**NSP** – Northern States Power Company.

**R-squared** - Coefficient of determination; measures the quality of the model's fit to the historical data. The higher the R-squared statistic, the better the model is explaining the historical data.

**Regression Model** - Statistical technique employing multiple independent variables to model the variation of the dependent variable about its mean value.

**Residual Terms** - The difference between the actual values of the data series being modeled (customers or sales) and the regression model's predicted, or "fitted" values for that series. Also called Error Terms.

**t-Statistic** - Measures the importance of the independent variable to the regression. The higher the absolute value of the t-statistic, the more likely it is that the variable has a relationship to the dependent variable and is making an important contribution to the equation.

**Test Year** – January 1, 2026-December 31, 2026.

**Total Weather Load** - Component of sales influenced by weather.

**Unbilled Sales** – Gas consumed in the current month but not billed to customers until the succeeding month.

**Weather Normalized** – Dkt sales adjusted to remove the impact of abnormal weather.

**Xcel Energy** – Northern States Power Company, a Minnesota corporation.

**XEI** – Xcel Energy Inc.

**XES** – Xcel Energy Services Inc.

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Xcel Energy - Minnesota State | | | | | | | | | | | | | |
| 2 | Test Year Sales and Customers by Customer Class | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | |
| 4 | **Weather Normalized Calendar Month Sales (Dkt)** | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | |
| 6 | | Jan 2026 | Feb 2026 | Mar 2026 | Apr 2026 | May 2026 | Jun 2026 | Jul 2026 | Aug 2026 | Sep 2026 | Oct 2026 | Nov 2026 | Dec 2026 | Year 2026 |
| 7 | | | | | | | | | | | | | | |
| 8 | Residential | 7,469,866 | 6,552,714 | 4,917,893 | 2,844,870 | 1,536,717 | 789,266 | 650,090 | 671,148 | 865,484 | 2,188,994 | 4,207,920 | 6,729,831 | 39,424,795 |
| 9 | Total Commercial[1] | 4,237,040 | 3,964,337 | 3,012,971 | 1,756,481 | 1,021,347 | 631,730 | 426,456 | 494,088 | 617,248 | 1,393,059 | 2,560,038 | 3,901,334 | 24,016,129 |
| 10 | Total Demand | 381,827 | 346,954 | 308,181 | 225,145 | 175,307 | 148,815 | 148,123 | 152,999 | 158,643 | 220,350 | 265,369 | 343,628 | 2,875,341 |
| 11 | | | | | | | | | | | | | | |
| 12 | **Total Firm Sales** | **12,088,733** | **10,864,006** | **8,239,045** | **4,826,496** | **2,733,371** | **1,569,811** | **1,224,669** | **1,318,234** | **1,641,375** | **3,802,403** | **7,033,327** | **10,974,794** | **66,316,264** |
| 13 | | | | | | | | | | | | | | |
| 14 | Total Interruptible[2] | 1,011,204 | 884,706 | 1,060,603 | 768,661 | 530,968 | 344,317 | 388,953 | 409,482 | 363,266 | 548,313 | 774,592 | 949,892 | 8,034,956 |
| 15 | | | | | | | | | | | | | | |
| 16 | **Total Retail Sales** | **13,099,937** | **11,748,712** | **9,299,648** | **5,595,157** | **3,264,338** | **1,914,128** | **1,613,622** | **1,727,716** | **2,004,642** | **4,350,716** | **7,807,919** | **11,924,686** | **74,351,221** |
| 17 | | | | | | | | | | | | | | |
| 18 | Total Transportation | 3,402,515 | 3,060,416 | 4,096,057 | 2,482,799 | 3,969,014 | 4,581,368 | 5,770,944 | 5,539,963 | 4,226,911 | 4,805,973 | 3,565,331 | 2,939,854 | 48,441,146 |
| 19 | | | | | | | | | | | | | | |
| 20 | **Total Sales** | **16,502,452** | **14,809,128** | **13,395,705** | **8,077,956** | **7,233,353** | **6,495,497** | **7,384,566** | **7,267,678** | **6,231,552** | **9,156,690** | **11,373,250** | **14,864,540** | **122,792,367** |
| 21 | | | | | | | | | | | | | | |
| 22 | **Number of Customers** | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | |
| 24 | | Jan 2026 | Feb 2026 | Mar 2026 | Apr 2026 | May 2026 | Jun 2026 | Jul 2026 | Aug 2026 | Sep 2026 | Oct 2026 | Nov 2026 | Dec 2026 | Year 2026 |
| 25 | | | | | | | | | | | | | | |
| 26 | Residential | 459,709 | 459,971 | 460,207 | 460,320 | 460,575 | 460,298 | 460,264 | 460,479 | 460,714 | 461,483 | 462,029 | 462,511 | 460,713 |
| 27 | Total Commercial[1] | 36,793 | 36,812 | 36,869 | 36,882 | 36,859 | 36,813 | 36,647 | 36,625 | 36,610 | 36,584 | 36,573 | 36,625 | 36,724 |
| 28 | Total Demand | 142 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | 142 |
| 29 | | | | | | | | | | | | | | |
| 30 | **Total Firm Customers** | **496,643** | **496,925** | **497,218** | **497,344** | **497,576** | **497,253** | **497,053** | **497,246** | **497,466** | **498,209** | **498,744** | **499,279** | **497,580** |
| 31 | | | | | | | | | | | | | | |
| 32 | Total Interruptible[2] | 236 | 235 | 234 | 232 | 231 | 230 | 229 | 228 | 226 | 225 | 224 | 223 | 229 |
| 33 | | | | | | | | | | | | | | |
| 34 | **Total Retail Customers** | **496,880** | **497,160** | **497,452** | **497,577** | **497,807** | **497,483** | **497,282** | **497,473** | **497,693** | **498,434** | **498,968** | **499,501** | **497,809** |
| 35 | | | | | | | | | | | | | | |
| 36 | Total Transportation | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 |
| 37 | | | | | | | | | | | | | | |
| 38 | **Total Customers** | **496,909** | **497,189** | **497,481** | **497,606** | **497,836** | **497,512** | **497,311** | **497,502** | **497,722** | **498,463** | **498,997** | **499,530** | **497,838** |

[1] Includes Interdepartmental Sales

[2] Includes Generation Sales

## Xcel Energy Minnesota Residential
## 2026 Test-Year Sales Forecast

| Variable | Coefficient | StdErr | T-Stat | P-Value | Definition |
|---|---|---|---|---|---|
| ResCust_HDD65_Jan | 0.011 | 0.000 | 91.381 | 0.00% | |
| ResCust_HDD65_Feb | 0.011 | 0.000 | 79.120 | 0.00% | |
| ResCust_HDD65_Mar | 0.011 | 0.000 | 77.829 | 0.00% | |
| ResCust_HDD65_Apr | 0.010 | 0.000 | 46.755 | 0.00% | |
| ResCust_HDD65_May | 0.010 | 0.000 | 23.690 | 0.00% | |
| ResCust_HDD65_Jun | 0.015 | 0.002 | 8.140 | 0.00% | |
| ResCust_Jul | 0.610 | 0.166 | 3.681 | 0.03% | |
| ResCust_Aug | 0.486 | 0.166 | 2.937 | 0.38% | |
| ResCust_Sep | 0.545 | 0.166 | 3.289 | 0.12% | |
| ResCust_HDD65_Oct | 0.008 | 0.001 | 13.577 | 0.00% | |
| ResCust_HDD65_Nov | 0.009 | 0.000 | 31.680 | 0.00% | |
| ResCust_HDD65_Dec | 0.010 | 0.000 | 61.956 | 0.00% | |
| ResCust_Fcst | 1.053 | 0.143 | 7.385 | 0.00% | |
| ResPrice_Q1Q4 | -262907.758 | 101910.767 | -2.580 | 1.07% | |

# Xcel Energy Minnesota Residential
# 2026 Test-Year Sales Forecast

| Model Statistics | |
|---|---|
| Iterations | 1 |
| Adjusted Observations | 180 |
| Deg. of Freedom for Error | 166 |
| R-Squared | 0.997 |
| Adjusted R-Squared | 0.997 |
| AIC | 23.745 |
| BIC | 23.993 |
| F-Statistic | #NA |
| Prob (F-Statistic) | #NA |
| Log-Likelihood | -2,378.44 |
| Model Sum of Squares | 999,435,644,651,238.00 |
| Sum of Squared Errors | 3,161,918,814,854.84 |
| Mean Squared Error | 19,047,703,703.94 |
| Std. Error of Regression | 138,013.42 |
| Mean Abs. Dev. (MAD) | 95,531.81 |
| Mean Abs. % Err. (MAPE) | 4.47% |
| Durbin-Watson Statistic | 2.010 |
| Durbin-H Statistic | #NA |
| Ljung-Box Statistic | 25.11 |
| Prob (Ljung-Box) | 0.3996 |
| Skewness | -0.398 |
| Kurtosis | 4.884 |
| Jarque-Bera | 31.396 |
| Prob (Jarque-Bera) | 0.0000 |

# Xcel Energy Minnesota Small Commercial
# 2026 Test-Year Sales Forecast

| Variable | Coefficient | StdErr | T-Stat | P-Value |
|---|---|---|---|---|
| SmCommCust_HDD65_Jan_Reclass | 0.028 | 0.001 | 36.267 | 0.00% |
| SmCommCust_HDD65_Feb_Reclass | 0.028 | 0.001 | 33.903 | 0.00% |
| SmCommCust_HDD65_Mar_Reclass | 0.029 | 0.001 | 34.279 | 0.00% |
| SmCommCust_HDD65_Apr_Reclass | 0.024 | 0.001 | 21.129 | 0.00% |
| SmCommCust_HDD65_May_Reclass | 0.025 | 0.003 | 9.872 | 0.00% |
| SmCommCust_HDD65_Jun_Reclass | 0.023 | 0.008 | 3.006 | 0.31% |
| SmCommCust_HDD65_Oct_Reclass | 0.011 | 0.003 | 4.310 | 0.00% |
| SmCommCust_HDD65_Nov_Reclass | 0.018 | 0.002 | 10.968 | 0.00% |
| SmCommCust_HDD65_Dec_Reclass | 0.023 | 0.001 | 25.005 | 0.00% |
| MN_SmCommCust_Fcst | 3.145 | 0.603 | 5.215 | 0.00% |
| AR(1) | 0.428 | 0.076 | 5.592 | 0.00% |
| SAR(1) | 0.627 | 0.066 | 9.498 | 0.00% |

# Xcel Energy Minnesota Small Commercial
# 2026 Test-Year Sales Forecast

| Model Statistics | |
|---|---|
| Iterations | 29 |
| Adjusted Observations | 167 |
| Deg. of Freedom for Error | 155 |
| R-Squared | 0.992 |
| Adjusted R-Squared | 0.991 |
| AIC | 20.956 |
| BIC | 21.180 |
| F-Statistic | #NA |
| Prob (F-Statistic) | #NA |
| Log-Likelihood | -1,974.82 |
| Model Sum of Squares | 22,460,865,005,854.30 |
| Sum of Squared Errors | 182,620,823,737.96 |
| Mean Squared Error | 1,178,198,862.83 |
| Std. Error of Regression | 34,324.90 |
| Mean Abs. Dev. (MAD) | 22,449.59 |
| Mean Abs. % Err. (MAPE) | 6.98% |
| Durbin-Watson Statistic | 2.091 |
| Durbin-H Statistic | #NA |
| Ljung-Box Statistic | 33.79 |
| Prob (Ljung-Box) | 0.0884 |
| Skewness | -0.145 |
| Kurtosis | 6.783 |
| Jarque-Bera | 100.178 |
| Prob (Jarque-Bera) | 0.0000 |

# Xcel Energy Minnesota Large Commercial
# 2026 Test-Year Sales Forecast

| Variable | Coefficient | StdErr | T-Stat | P-Value |
|---|---|---|---|---|
| LgCommCust_HDD65_Jan_Reclass | 0.169 | 0.001 | 125.112 | 0.00% |
| LgCommCust_HDD65_Feb_Reclass | 0.168 | 0.002 | 110.276 | 0.00% |
| LgCommCust_HDD65_Mar_Reclass | 0.179 | 0.002 | 110.717 | 0.00% |
| LgCommCust_HDD65_Apr_Reclass | 0.168 | 0.003 | 64.732 | 0.00% |
| LgCommCust_HDD65_May_Reclass | 0.173 | 0.005 | 33.341 | 0.00% |
| LgCom_Jun_Reclass | 15.280 | 2.007 | 7.614 | 0.00% |
| LgCommCust_HDD65_Oct_Reclass | 0.091 | 0.008 | 11.859 | 0.00% |
| LgCommCust_HDD65_Nov_Reclass | 0.131 | 0.003 | 39.331 | 0.00% |
| LgCommCust_HDD65_Dec_Reclass | 0.149 | 0.002 | 84.958 | 0.00% |
| CUST_LgCom_MN_Reclass | 35.188 | 0.960 | 36.636 | 0.00% |

# Xcel Energy Minnesota Large Commercial
# 2026 Test-Year Sales Forecast

| Model Statistics | |
|---|---|
| Iterations | 1 |
| Adjusted Observations | 180 |
| Deg. of Freedom for Error | 170 |
| R-Squared | 0.995 |
| Adjusted R-Squared | 0.995 |
| AIC | 22.296 |
| BIC | 22.473 |
| F-Statistic | #NA |
| Prob (F-Statistic) | #NA |
| Log-Likelihood | -2,252.04 |
| Model Sum of Squares | 157,991,657,665,178.00 |
| Sum of Squared Errors | 776,286,365,990.84 |
| Mean Squared Error | 4,566,390,388.18 |
| Std. Error of Regression | 67,575.07 |
| Mean Abs. Dev. (MAD) | 45,401.16 |
| Mean Abs. % Err. (MAPE) | 4.19% |
| Durbin-Watson Statistic | 2.001 |
| Durbin-H Statistic | #NA |
| Ljung-Box Statistic | 24.93 |
| Prob (Ljung-Box) | 0.4096 |
| Skewness | -0.913 |
| Kurtosis | 6.162 |
| Jarque-Bera | 99.999 |
| Prob (Jarque-Bera) | 0.0000 |

# Xcel Energy Minnesota Small Interruptible
## 2026 Test-Year Sales Forecast

| Variable | Coefficient | StdErr | T-Stat | P-Value |
|---|---|---|---|---|
| SVICust_HDD65_Jan | 0.707 | 0.020 | 35.561 | 0.00% |
| SVICust_HDD65_Feb | 0.704 | 0.023 | 30.335 | 0.00% |
| SVICust_HDD65_Mar | 0.836 | 0.024 | 35.180 | 0.00% |
| SVICust_HDD65_Apr | 0.786 | 0.036 | 22.061 | 0.00% |
| SVICust_HDD65_May | 1.013 | 0.074 | 13.700 | 0.00% |
| SVICust_HDD65_Jun | 0.825 | 0.269 | 3.071 | 0.25% |
| SVICust_HDD65_Oct | 0.380 | 0.097 | 3.936 | 0.01% |
| SVICust_HDD65_Nov | 0.634 | 0.046 | 13.709 | 0.00% |
| SVICust_HDD65_Dec | 0.752 | 0.026 | 29.339 | 0.00% |
| SVICust_Fcst | 229.905 | 12.915 | 17.802 | 0.00% |
| Outlier_2014_Feb | -119128.206 | 18329.861 | -6.499 | 0.00% |
| Outlier_2018_Jan | -78122.799 | 17893.149 | -4.366 | 0.00% |
| SAR(1) | 0.30012775 | 0.07046243 | 4.2594 | 4E-05 |

# Xcel Energy Minnesota Small Interruptible
# 2026 Test-Year Sales Forecast

| Model Statistics | |
|---|---|
| Iterations | 11 |
| Adjusted Observations | 168 |
| Deg. of Freedom for Error | 155 |
| R-Squared | 0.977 |
| Adjusted R-Squared | 0.976 |
| AIC | 19.752 |
| BIC | 19.994 |
| F-Statistic | #NA |
| Prob (F-Statistic) | #NA |
| Log-Likelihood | -1,884.57 |
| Model Sum of Squares | 2,355,973,169,814.16 |
| Sum of Squared Errors | 54,500,335,134.60 |
| Mean Squared Error | 351,615,065.38 |
| Std. Error of Regression | 18,751.40 |
| Mean Abs. Dev. (MAD) | 13,082.82 |
| Mean Abs. % Err. (MAPE) | 8.21% |
| Durbin-Watson Statistic | 1.913 |
| Durbin-H Statistic | #NA |
| Ljung-Box Statistic | 47.43 |
| Prob (Ljung-Box) | 0.003 |
| Skewness | -0.005 |
| Kurtosis | 4.123 |
| Jarque-Bera | 8.834 |
| Prob (Jarque-Bera) | 0.012 |

## Xcel Energy Minnesota Medium Interruptible
## 2026 Test-Year Sales Forecast

| Variable | Coefficient | StdErr | T-Stat | P-Value |
|---|---|---|---|---|
| MVICust_HDD65_Jan | 2.282 | 0.133 | 17.210 | 0.00% |
| MVICust_HDD65_Feb | 2.804 | 0.149 | 18.874 | 0.00% |
| MVICust_HDD65_Mar | 2.757 | 0.162 | 16.987 | 0.00% |
| MVICust_HDD65_Apr | 2.969 | 0.250 | 11.881 | 0.00% |
| MVICust_HDD65_May | 3.632 | 0.513 | 7.084 | 0.00% |
| MVICust_HDD65_Nov | 3.227 | 0.313 | 10.310 | 0.00% |
| MVICust_HDD65_Dec | 2.373 | 0.174 | 13.672 | 0.00% |
| Customers_BillingDays_Interaction | 97.724 | 2.520 | 38.785 | 0.00% |
| Outlier_2021_Mar | -183989.876 | 42236.641 | -4.356 | 0.00% |
| SAR(1) | 0.294 | 0.059 | 4.966 | 0.00% |

## Xcel Energy Minnesota Medium Interruptible
## 2026 Test-Year Sales Forecast

| Model Statistics | |
|---|---|
| Iterations | 7 |
| Adjusted Observations | 168 |
| Deg. of Freedom for Error | 158 |
| R-Squared | 0.915 |
| Adjusted R-Squared | 0.910 |
| AIC | 21.481 |
| BIC | 21.667 |
| F-Statistic | #NA |
| Prob (F-Statistic) | #NA |
| Log-Likelihood | -2,032.81 |
| Model Sum of Squares | 3,409,425,784,330.87 |
| Sum of Squared Errors | 318,267,374,557.20 |
| Mean Squared Error | 2,014,350,471.88 |
| Std. Error of Regression | 44,881.52 |
| Mean Abs. Dev. (MAD) | 33,895.88 |
| Mean Abs. % Err. (MAPE) | 8.51% |
| Durbin-Watson Statistic | 1.908 |
| Durbin-H Statistic | #NA |
| Ljung-Box Statistic | 41.23 |
| Prob (Ljung-Box) | 0.0157 |
| Skewness | 0.200 |
| Kurtosis | 3.164 |
| Jarque-Bera | 1.312 |
| Prob (Jarque-Bera) | 0.5188 |

## Xcel Energy Minnesota Residential
## 2026 Test-Year Customer Forecast

| Variable | Coefficient | StdErr | T-Stat | P-Value |
|---|---|---|---|---|
| MA_HH_MN | 193.219 | 1.604 | 120.453 | 0.00% |
| Jan | 239.160 | 76.473 | 3.127 | 0.21% |
| Feb | 287.368 | 93.396 | 3.077 | 0.25% |
| Mar | 301.644 | 93.509 | 3.226 | 0.15% |
| Apr | 145.581 | 76.355 | 1.907 | 5.84% |
| Jun | -544.307 | 81.095 | -6.712 | 0.00% |
| Jul | -885.611 | 103.744 | -8.536 | 0.00% |
| Aug | -941.995 | 112.862 | -8.346 | 0.00% |
| Sep | -987.319 | 112.641 | -8.765 | 0.00% |
| Oct | -478.448 | 102.632 | -4.662 | 0.00% |
| Nov | -204.909 | 78.668 | -2.605 | 1.01% |
| Outlier_HH_Bump | -439.921 | 156.349 | -2.814 | 0.55% |
| AR(1) | 0.993 | 0.009 | 105.339 | 0.00% |
| SAR(1) | 0.285 | 0.090 | 3.154 | 0.19% |

## Xcel Energy Minnesota Residential
## 2026 Test-Year Customer Forecast

| Model Statistics | |
|---|---|
| Iterations | 60 |
| Adjusted Observations | 167 |
| Deg. of Freedom for Error | 153 |
| R-Squared | 1.000 |
| Adjusted R-Squared | 1.000 |
| AIC | 11.000 |
| BIC | 11.261 |
| F-Statistic | #NA |
| Prob (F-Statistic) | #NA |
| Log-Likelihood | -1,141.46 |
| Model Sum of Squares | 48,901,408,285.62 |
| Sum of Squared Errors | 8,455,203.63 |
| Mean Squared Error | 55,262.77 |
| Std. Error of Regression | 235.08 |
| Mean Abs. Dev. (MAD) | 173.34 |
| Mean Abs. % Err. (MAPE) | 0.04% |
| Durbin-Watson Statistic | 0.911 |
| Durbin-H Statistic | #NA |
| Ljung-Box Statistic | 320.414 |
| Prob (Ljung-Box) | 0.000 |
| Skewness | 0.451 |
| Kurtosis | 3.112 |
| Jarque-Bera | 5.760 |
| Prob (Jarque-Bera) | 0.056 |

## Xcel Energy Minnesota Small Commercial
## 2026 Test-Year Customer Forecast

| Variable | Coefficient | StdErr | T-Stat | P-Value |
|---|---|---|---|---|
| CONST | 21444.115 | 1426.853 | 15.029 | 0.00% |
| NR_MN | 0.578 | 0.255 | 2.270 | 2.45% |
| BinaryTrans.Jan | 109.469 | 25.519 | 4.290 | 0.00% |
| BinaryTrans.Feb | 143.911 | 29.213 | 4.926 | 0.00% |
| BinaryTrans.Mar | 172.320 | 30.325 | 5.682 | 0.00% |
| BinaryTrans.Apr | 172.952 | 29.125 | 5.938 | 0.00% |
| BinaryTrans.May | 163.196 | 25.330 | 6.443 | 0.00% |
| BinaryTrans.Jun | 140.084 | 17.408 | 8.047 | 0.00% |
| BinaryTrans.Dec | 57.288 | 17.857 | 3.208 | 0.16% |
| AR(1) | 1.077 | 0.080 | 13.390 | 0.00% |
| AR(2) | -0.200 | 0.081 | -2.482 | 1.41% |
| SMA(1) | 0.596 | 0.065 | 9.179 | 0.00% |

## Xcel Energy Minnesota Small Commercial
## 2026 Test-Year Customer Forecast

| Model Statistics | |
|---|---|
| Iterations | 18 |
| Adjusted Observations | 178 |
| Deg. of Freedom for Error | 166 |
| R-Squared | 0.933 |
| Adjusted R-Squared | 0.929 |
| AIC | 7.581 |
| BIC | 7.796 |
| F-Statistic | 211.3783189 |
| Prob (F-Statistic) | 0 |
| Log-Likelihood | -915.30 |
| Model Sum of Squares | 4,272,830.78 |
| Sum of Squared Errors | 305,049.74 |
| Mean Squared Error | 1,837.65 |
| Std. Error of Regression | 42.87 |
| Mean Abs. Dev. (MAD) | 28.84 |
| Mean Abs. % Err. (MAPE) | 0.12% |
| Durbin-Watson Statistic | 1.982 |
| Durbin-H Statistic | #NA |
| Ljung-Box Statistic | 35.83 |
| Prob (Ljung-Box) | 0.0570 |
| Skewness | -1.225 |
| Kurtosis | 9.859 |
| Jarque-Bera | 393.486 |
| Prob (Jarque-Bera) | 0.000 |