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Direct Testimony and Schedules
Jannell E. Marks

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 Electric Service in Minnesota

Docket No. E002/GR-20-723
Exhibit___(JEM-1)

Sales Forecast

November 2, 2020

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Table of Contents

PUBLIC DOCUMENT
NOT-PUBLIC DATA HAS BEEN EXCISED

Schedules

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND OCCUPATION.

A. My name is Jannell E. Marks. 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 Colorado State University with a Bachelor of Science degree in statistics. I began my employment with Public Service Company of Colorado in 1982 in the Economics and Forecasting department, and in August 2000, following the merger of New Centuries Energy Inc. (NCE) and Northern States Power Company (NSP), I assumed the position of Manager, Economics and Energy Forecasting with XES. I was promoted to my current position with XES in February 2007. My resume is included as Exhibit___(JEM-1), Schedule 1.

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

A. I support the Company's forecast of sales and customers for the period of January 1, 2021 through December 31, 2025. This forecast forms the basis for the Company's revenue forecast in this proceeding.

II. OVERVIEW

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. My testimony presents the sales and customer count forecast and discusses the methodology used to develop the forecast. As I discuss below, the Company's forecast is based on sound statistical methodologies and provides a reasonable estimate of 2021 through 2025 megawatt-hour (MWh) sales and customer counts. The forecast supports the Company's revenue projections and should be adopted for the purpose of determining the revenue requirement and final rates in this proceeding.

I discuss the weather normalization of the sales forecast, the preparation of data used in the forecasting process, how unbilled and calendar-month sales are calculated, adjustments made to the forecast, and how the rate schedule forecast is derived. I also discuss the compliance requirements related to the sales forecast following previous electric rate cases, compliance requirements from Docket No. E,G999/M-12-587 (Multiyear Rate Plan), and the issues raised in Docket No. E002/GR-13-868 (2013 Electric Rate Case) and Docket No. E002/GR-15-826 (2016 multi-year rate plan (MYRP)) related to the sales forecast. In addition, I discuss a "true-up" for the Company's test year sales, in an effort to minimize the disputed issues in this proceeding.

Q. WHAT TRENDS ARE YOU SEEING IN THE COMPANY'S SALES?

A. The Company's Minnesota electric sales have been declining since 2008 through 2019, notwithstanding increasing numbers of customers taking service. The

Company believes this is due to increased energy efficiency for residential customers, resulting in less consumption per household and declining commercial and industrial sales. I further discuss the drivers of these trends later in my testimony.

Q. ARE THE RESULTS OF THE COMPANY'S FORECAST CONSISTENT WITH THESE TRENDS?

A. Yes. As I discuss later in my testimony, with the exception of impacts from the COVID-19 pandemic that have led to increases in Residential sales and declines in Commercial and Industrial sales, the Company's forecast continues to see sales drop consistent with our historic trends. I note that the Company's past forecasts have actually overstated sales when compared to actual outcomes, which is due to greater than anticipated declines in customer electricity consumption.

Q. PLEASE DISCUSS THE COMPLIANCE REQUIREMENTS RELATED TO THE SALES FORECAST FOLLOWING PREVIOUS ELECTRIC RATE CASES.

A. In the Company's 2016 MYRP, Docket No. E002/GR-15-826, a settlement agreement was approved that included an agreement to use 2016 weather-normalized actual sales to set final rates for all customer classes.[1] There were

[1] *In the Matter of the Application of Northern States Power Company for Authority to Increase Rates for Electric Service in the State of Minnesota*, STIPULATION AND SETTLEMENT at 6, Docket No. E002/GR-15-826 (August 16, 2016); *In the Matter of the Application of Northern States Power Company for Authority to Increase Rates for Electric Service in the State of Minnesota*, FINDINGS OF FACT, CONCLUSIONS, AND ORDER at 68, Docket No. E002/GR-15-826 (June 12, 2017) (approving the settlement in its entirety).

no compliance requirements related to the sales forecast resulting from that proceeding.

In the Company's 2012 electric rate case, Docket No. E002/GR-12-961, Order Point No. 18a of the Commission's September 3, 2013 Order (12-961 Order) required the Company to provide the Department of Commerce, Division of Energy Resources (Department), the data used in the test year sales forecast at least 30 days prior to filing a general rate case. The Company provided this information prior to filing its subsequent electric rate cases in Docket No. E002/GR-13-868, Docket No. E002/GR-15-826, Docket No. E002/GR-19-564, and continued this practice in the current case by providing the required information on October 2, 2020. The information was e-filed through the Commission's electronic filing system. I discuss the compliance requirements in more detail in Section XIII of my testimony.

Q. ARE THERE SALES FORECAST COMPLIANCE REQUIREMENTS RELATED TO THE MULTIYEAR RATE PLAN FILED IN THIS CASE?

A. Yes. The Commission's June 17, 2013 Order in Docket No. E,G999/M-12-587 requires that, in addition to testimony supporting the proposed sales forecast and sales forecast methodology, the utility submit an analysis of the historical accuracy of our short-term, medium-term, and long-term forecasts.[2]

[2] *In the Matter of the Minnesota Office of the Attorney General – Antitrust and Utilities Division's Petition for a Commission Investigation Regarding Criteria and Standards for a Multiyear Rate Plans under Minn. Stat. 216B.16, subd. 19*, ORDER ESTABLISHING TERMS, CONDITIONS, AND PROCEDURES FOR MULTIYEAR RATE PLANS at 12, Docket No. E, G999/M-12-587 (June 17, 2013).

This comparison is provided in Exhibit___(JEM-1), Schedule 2 and discussed later in this section 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___(JEM-1), Schedule 3.

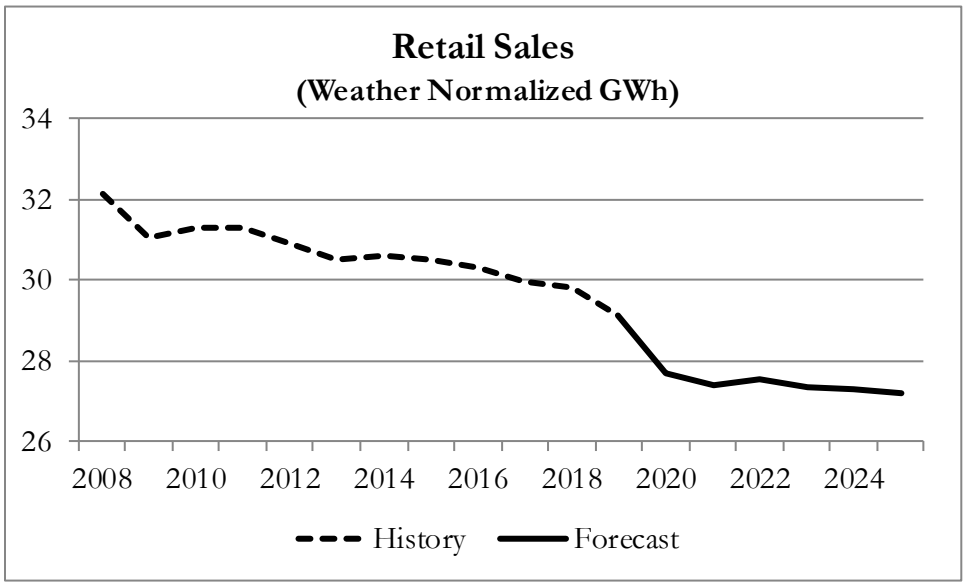
Q. PLEASE EXPLAIN THE SIGNIFICANCE OF AN ACCURATE SALES FORECAST.

A. We share an interest with our customers in having accurate forecasts. An accurate sales forecast allows the Company to recover its costs, no more and no less. In addition, forecasts are used for purposes other than setting rates, such as resource planning, where it is important that the Company has sufficient resources to meet customer needs over time.

Q. PLEASE SUMMARIZE THE COMPANY'S FORECAST FOR 2021 THROUGH 2025.

A. Our forecast indicates that, although overall customers are increasing, overall sales are decreasing. This is continuing the trend we have seen for the last 11 years. Figure 1 below shows these trends along with historical actuals since 2008.

Figure 1



The Company projects 2021 total sales to decrease from 2019 levels by 5.0 percent to 27,701,857 MWh, 2021 total sales to decrease from 2020 levels by 1.1 percent to 27,384,049 MWh, 2022 total sales to increase from 2021 levels by 0.5 percent to 27,530,753 MWh, 2023 total sales to decrease from 2022 levels by 0.6 percent to 27,364,557 MWh, 2024 total sales to decrease from 2024 levels by 0.3 percent to 27,293,382 MWh, and 2025 total sales to decrease from 2024 levels by 0.4 percent to 27,195,315 MWh.

Notwithstanding our forecasted declining sales, total year-end retail customers are expected to increase annually by 0.6 percent to 1,314,238 customers in 2020, 0.4 percent to 1,319,518 customers in 2021, 0.8 percent to 1,330,254 customers in 2022, 0.8 percent to 1,340,380 customers in 2023, 0.7 percent to 1,349,430 customers in 2024, and 0.7 percent to 1,358,746 customers in 2025.

Q. DOES THE COMPANY'S FORECAST ACCOUNT FOR THE IMPACT FROM THE COVID-19 PANDEMIC?

A. Yes. Year-to-date sales in 2020 have been significantly impacted by the COVID-19 pandemic, and we expect the impacts to continue throughout 2021, although to a lesser degree. I discuss these specific impacts later in my testimony after discussing the broader economic trends related to COVID-19.

Q. WHAT IMPACT HAS THE COVID-19 PANDEMIC HAD ON THE MINNESOTA ECONOMY?

A. Like most areas of the country, the COVID-19 pandemic has significantly impacted the Minnesota economy in 2020. Total nonfarm employment for the state, as reported by the U.S. Bureau of Labor Statistics, declined 13.0 percent from 2,977,600 in February 2020 to 2,589,800 in April 2020 and has improved to only 2,725,300 in July,[3] which is still 8.5 percent below February levels. Minneapolis-St. Paul nonfarm employment declined 12.4 percent from 1,998,500 in February 2020 to 1,749,700 in April, and has recovered to 1,871,000 in July,[4] which is 6.4 percent below February 2020 levels.

Q. WHAT ARE THE EXPECTED CONTINUING ECONOMIC EFFECTS FROM COVID-19 DURING THE 2021 TEST YEAR?

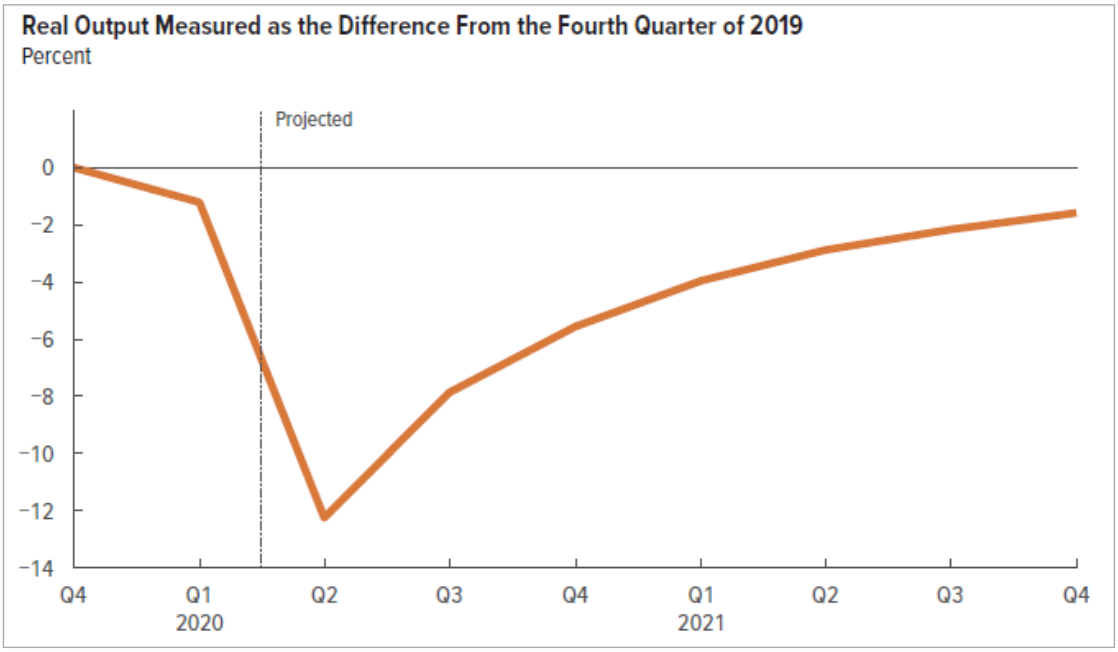
A. While we anticipate the greatest economic impact from the pandemic to occur in 2020, we expect to feel the effects throughout the 2021 test year and beyond. We expect many businesses to continue to be negatively impacted due to the

[3] https://www.bls.gov/regions/midwest/minnesota.htm#eag, accessed October 6, 2020.
[4] https://www.bls.gov/regions/midwest/mn_minneapolis_msa.htm, accessed October 6, 2020.

uncertainty of the pandemic. We also expect that these businesses will operate at lower than normal levels through much of 2021. Some business will not remain viable at lower operating levels and will close permanently. With time, however, the economy will recover, and businesses will return to normal operations or new businesses will be established to replace those that closed.

This outlook is consistent with the outlook of the Congressional Budget Office (CBO), as shown in Figure 2 below. Figure 2 provides the CBO's projected change in Gross Domestic Product (GDP) compared to the fourth quarter of 2019, and shows that GDP is expected to be lower than 2019 levels throughout 2021.

Figure 2[5]



[5] Congress of the United States Congressional Budget Office, "CBO Interim Economic Projections for 2020 and 2021," May 2020, https://www.cbo.gov/system/files/2020-05/56351-CBO-interim-projections.pdf.

To develop the customer and sales forecast, the Company relies on historical and forecasted economic and demographic variables for the state and the Minneapolis-St. Paul metropolitan area that are obtained from IHS Markit (formerly IHS Global Insight, Inc.), a respected economic forecasting firm frequently relied on by forecasting professionals and by the Company since the 1990s. Similar to the CBO outlook, economic data from IHS Markit for 2021 forecasts a modest improvement, but the economy is not expected to be at or above pre-pandemic levels for several years.

Q. HOW DO YOU EXPECT THE PANDEMIC TO AFFECT SALES AND CUSTOMER GROWTH OVER THE NEXT FEW YEARS?

A. In general, we expect Residential sales to be strong in 2020, but not strong enough to offset the weakness in the Commercial and Industrial sector sales. We expect Residential sales will decline in 2021 and continue the pre-pandemic declining trend in 2022 through 2025. We expect sales in the Commercial and Industrial sector will also decline in 2021, but not at as great of a reduction as was seen in 2020. Commercial and Industrial sales will improve with positive growth in 2022. Then in 2023 through 2025, Commercial and Industrial sales will resume the declining trend that was seen before the pandemic.

To elaborate further, based on actual sales to-date in 2020, use per customer in the Residential sector is expected to increase in 2020 as more people are spending time at home, and in some cases working from home. In 2021, as people return to more normal activities, Residential use per customer is expected to decline from the higher 2020 levels but remain above pre-pandemic

levels. Residential use per customer is expected to continue declining after 2021 and return to pre-pandemic trends, leading to Residential sales declines in spite of customer growth.

In the Small Commercial and Industrial sector, use per customer to-date in 2020 has been negatively impacted as businesses are currently not operating at full capacity. We expect some businesses will close permanently this year, and even more will close in 2021. While use per customer will improve slightly in 2021, overall sales will continue to decline compared to 2020 levels. Use per customer will continue to improve in 2022 then return to the pre-pandemic declining trend.

Many business sectors included in the Large Commercial and Industrial sector have also seen year-to-date 2020 slowdowns. We expect 2020 sales in the Large Commercial and Industrial sector to be much weaker than 2019, followed by continued weakness in 2021 and beyond.

Q. TO WHAT DO YOU ATTRIBUTE THE LONGER-TERM DECLINING SALES TREND?

A. After accounting for the impacts of the pandemic on 2020 and 2021 sales, the projected decline in total retail sales is a result of declining Residential sales and Small Commercial and Industrial sales, which reflects the continuation of declining use per customer in these classes, notwithstanding increases in customer counts. That being said, the declining use per customer is somewhat mitigated by increases in the number of customers and the adoption of electric vehicles. Large Commercial and Industrial sales are also projected to decline

due to the expected loss of individual customer's loads identified prior to the pandemic, and then to increase modestly.

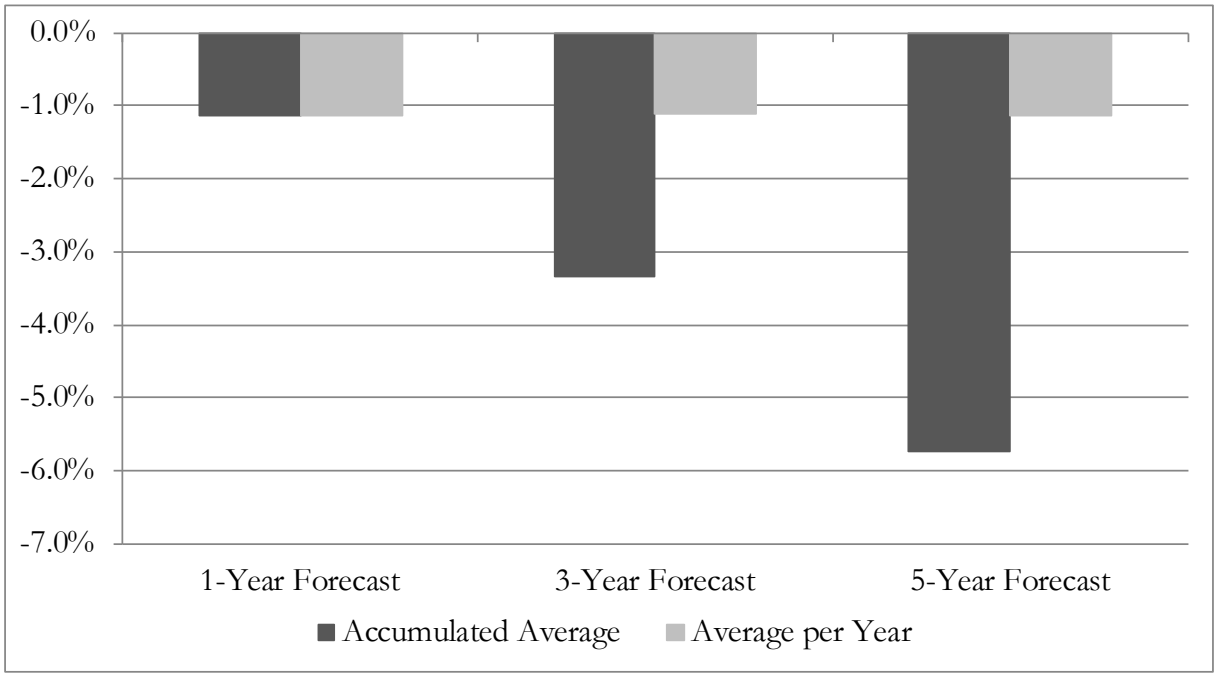
A more detailed discussion of the forecast results is provided in Section IV of my testimony. The forecast methodology is discussed in Section V through Section XI of my testimony.

Q. HAVE YOU REVIEWED THE HISTORICAL ACCURACY OF THE COMPANY'S SHORT-TERM, MEDIUM-TERM, AND LONG-TERM FORECASTS?

A. Yes. We analyzed forecasts from the past 11 years, beginning with the forecasts developed in 2008. We have found that our forecasting accuracy is improving. However, while the validity of our methodology and accuracy of our forecasts provide reasonable results, our actual sales continue to trail our forecast as demonstrated by Figure 3, below.

Figure 3

Historical Forecast Accuracy



Q. HOW DID YOU PERFORM THIS ANALYSIS?

A. For this analysis, we considered short-term to be the forecast for the one year out (*i.e.*, the next full year), medium-term to be three years out and long-term to be five years out. We have full-year actual results for 2019, which means that long-term forecast accuracy statistics are available for forecasts developed in 2014 and earlier, medium-term statistics are available for forecasts developed in 2016 and earlier, and short-term statistics are available for forecasts developed in 2018 and earlier. Figure 3 shows the short-term, medium-term, and long-term average forecast variance. Because forecast variance compounds over time, the variances were divided by the number of years to derive an average

per year. Both the accumulated average and the average per year are shown in Figure 3.

The forecast variance is provided in Schedule 2. This schedule provides a table with the annual forecast variances from 2009 to 2019. The table is shown three times: once with the long-term variances (five-year forecast accuracy) highlighted, once with the medium-term variances (three-year forecast accuracy) highlighted and once with the short-term variances (one-year forecast accuracy) highlighted. In the table, a negative number indicates weather-normalized actual sales were lower than was forecasted, and a positive number indicates weather-normalized actual sales were higher than was forecasted.

Q. WHAT DO YOU CONCLUDE?

A. I conclude that our forecast variance is generally smaller for short-term forecasts and larger for long-term forecasts, but in all cases the results show that the Company's forecasts tend to modestly overstate actual sales. This means that our forecasts are generally accurate, but our actual sales tend to be lower than our forecasts.

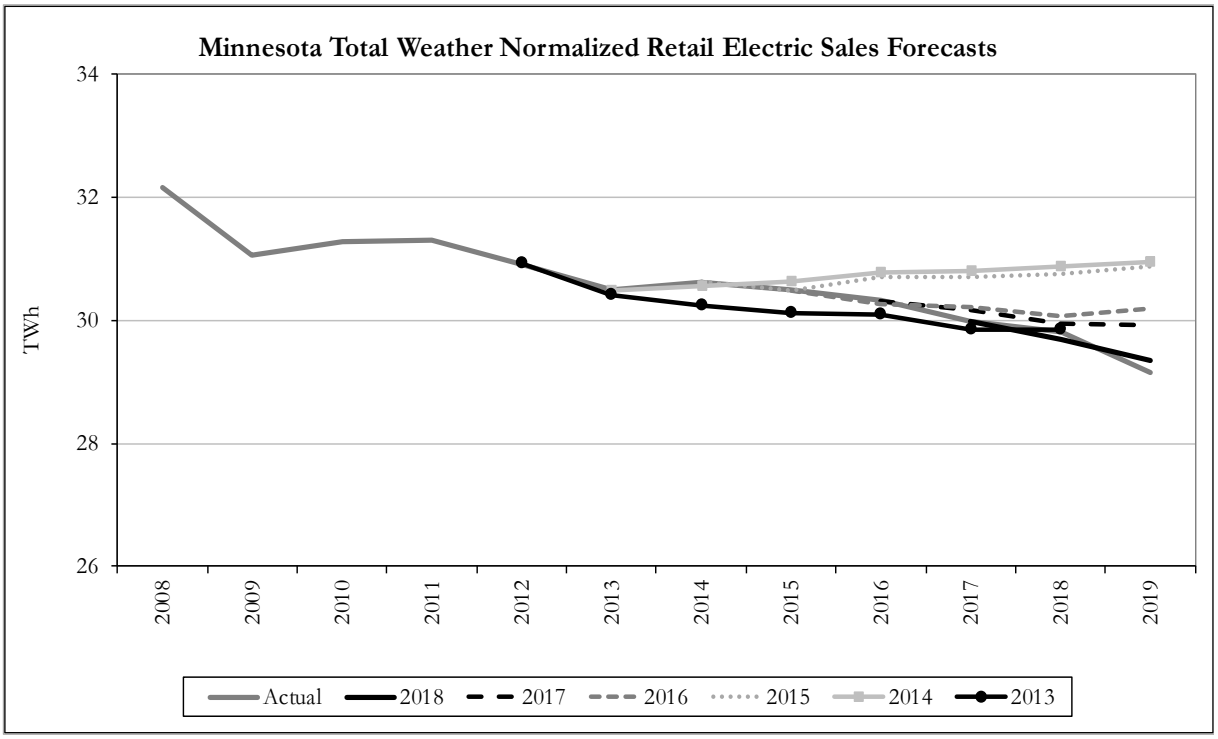
Q. CAN YOU PROVIDE ADDITIONAL DETAILS REGARDING THE ACCURACY OF THE COMPANY'S SALES FORECASTS?

A. Yes. As detailed in Schedule 2, the following are the variances between actuals sales and the Company's forecasts for the different types of forecasts:

- long-term forecasts variance is -5.7 percent,
- medium-term forecasts variance is -3.3 percent, and
- short-term forecast variance is -1.1 percent.

Schedule 2 also shows that the forecast variance has generally improved since 2012. As a graphical view, Figure 4 below provides the forecasts from 2013-2018 and weather normalized actual sales.

Figure 4



Q. WHAT IS CONTRIBUTING TO THESE VARIANCES?

A. There are several key contributors. First, during and immediately following the great recession of 2008, projections of both the speed and the magnitude of the

economic recovery were overstated, leading to sales forecasts that were too high. As the economy stabilized from 2010 through 2019, the economic forecasts have generally been more accurate.

In addition to overstated economic forecasts, there has been a significant shift in the relationship between energy sales and economic indicators. Prior to the great recession, energy sales were on an upward trajectory that closely followed growth in economic measures, such as Gross Domestic Product. Following the great recession, however, that relationship changed. Even though prior to the pandemic in 2020 the economy continued to grow, energy sales have not correspondingly increased. Rather, sales have shown a declining trend as appliances, equipment, lighting, and other end-uses have become more efficient. Based on projected economic growth, our past sales forecasts generally predicted a return to an increasing sales trend, which has not materialized.

Q. IS THE COMPANY'S FORECAST VARIANCE WITHIN A REASONABLE RANGE?

A. Yes, I believe so. I compared the Company's forecast variance with the variances reported in Itron's 2019 Forecast Benchmark Survey, which is provided as Exhibit___(JEM-1), Schedule 4. Itron's survey provides the one-year-out average annual forecast variance as reported by the survey respondents (for example, the 2019 Survey reports the variance for 2018 sales). Itron's 2019 survey also provides the survey results for total system energy forecast variance (measured as the unweighted Mean Absolute Percent Error) from the 2013 to 2019 surveys. The average total system energy forecast variance as reported by

more than 60 utilities in Itron's 2013 to 2019 surveys is 1.4 percent. The Company's comparable average variance for this same time period is 1.2 percent, which is in line with, and slightly better than, the industry average.

Q. WHAT IS THE RATE IMPACT OF MODESTLY OVERSTATED SALES FORECASTS IN A RATE SETTING PROCEEDING?

A. All else being equal, a modestly overstated sales forecast benefits customers, since such a forecast assumes the Company will sell more electricity than it actually does. Therefore, rates will be set lower on a per kWh basis than would have been set with a lower forecast. However, this would also mean that rates will be set lower than the amount necessary for the Company to recover our cost of service.

Q. HAVE YOU ADDRESSED ANY OF THE ISSUES RAISED WITH RESPECT TO THE SALES FORECAST METHODOLOGY IN DOCKET NOS. E002/GR-13-868 AND E002/GR-15-826?

A. Yes. In Docket No. E002/GR-13-868, the Department raised an issue related to the price escalator, the Demand Side Management (DSM) adjustment, and weather normalization. The Company met with the Department about those methodological differences in advance of filing the 2016 MYRP (Docket No. E002/GR-15-826), and those issues were addressed in that rate case.

In the Company's 2016 MYRP (Docket No. E002/GR-15-826), the Department raised issues concerning the Large Commercial and Industrial sales input data, the use of a certain price variable, and the Company's DSM

adjustments. Because a settlement agreement was approved in the 2016 MYRP, I believe those concerns were not fully resolved, and I will discuss the steps the Company has taken to address them in Section VI and Section VIII of my testimony. In addition, in both the 13-868 Docket and the 15-826 Docket, the Company agreed to a true-up to actuals for test year sales. We propose a similar true-up in this case, which I discuss in Section III of my testimony.

III. SALES FORECAST TRUE-UP PROPOSAL

Q. BEFORE TURNING TO THE SPECIFICS OF THE COMPANY'S FORECAST AND METHODOLOGY, PLEASE DISCUSS THE GOALS SOUGHT TO BE ACHIEVED IN A SALES FORECAST.

A. The goal of the sales forecast, as used in a rate case, is to best predict the amount of sales that the Company will make in the test year and plan years. Sales forecasts often become highly disputed issues in rate cases, given their impact on final rates. For example, if the sales forecast projects lower sales than the utility ultimately achieves, rates will have been overstated, all else being equal, and customers will have paid more than is necessary for the Company to earn its authorized return. Conversely, if the sales forecast is overstated, rates will be set too low, and the utility will be denied a reasonable opportunity to earn its authorized return.

The Company believes its sales forecast is based on sound methodologies and reasonable assumptions and can be relied on to set rates in this proceeding. As shown in Section II of my testimony, the Company's sales forecasts have been

reasonably accurate in the past, with variances in-line with or smaller than industry averages. However, the Company recognizes that other parties to this proceeding may disagree with the Company's methodologies, assumptions and forecast results, and may introduce their own forecast, as they have done in past rate cases.

Q. HOW DID PARTIES RESOLVE THIS ISSUE IN THE COMPANY'S 2016 MYRP (DOCKET NO. E002/GR-15-826)?

A. The parties found a reasonable solution, and avoided significant controversy, by agreeing to have actual data inform the proceeding rather than relying exclusively on one or the other of the competing forecasts. We also agreed to a test year true-up mechanism in the Company's 2016 MYRP.

Q. IS THIS CONSISTENT WITH OTHER RATE CASE OUTCOMES?

A. Yes. In Docket No. E002/GR-13-868, we also instituted a sales true-up mechanism that helped to ensure rates were accurately set based on actual sales.

Q. PLEASE EXPLAIN MORE HOW ACTUAL DATA CAN BE USED TO MORE ACCURATELY SET RATES IN GENERAL RATE PROCEEDINGS.

A. As is typical in general rate proceedings, a test year sales forecast is produced to determine revenues at current and proposed rates. Due to the timing of the filing and length of time required to put together a complete case, the sales forecast is produced well in advance of the actual test year. In this proceeding, the 2021 test year sales forecast was completed in July 2020, and the Company was able to use actual sales data through May 2020 to develop this forecast. In

our 2016 MYRP (Docket No. E002/GR-15-826), we were able to incorporate actual sales data over the course of the proceeding to better inform the record.

Q. HOW DID ACTUAL SALES COMPARE WITH THE FORECAST IN THE COMPANY'S 2016 MYRP RATE CASE?

A. In Docket No. E002/GR-15-826, the Company filed a compliance filing on February 6, 2017, which provided the weather-normalized 2016 actual sales. Table 1 below provides a comparison of the 2016 actual sales with both the Department's and Xcel Energy's 2016 test year forecasts. A negative value in the table indicates that actual sales were lower than was forecasted. As the table illustrates, weather-normalized 2016 actual retail sales were lower than was predicted in the Company's 2016 test year forecast (-411,205 MWh or -1.3 percent). This is in line with the Company's historical average short-term forecast variance of -1.2 percent.

Table 1

2016 Weather-Normalized Sales Comparison by Class

Actual Sales vs. Xcel Energy and Department of Commerce Forecasts

	Xcel Energy		Department of Commerce	
Customer Class	**Difference Actual vs. Forecast Sales (MWh)**	**Difference Actual vs. Forecast Sales (%)**	**Difference Actual vs. Forecast Sales (MWh)**	**Difference Actual vs. Forecast Sales (%)**
Residential	58,389	0.7%	-167,323	-1.9%
Small Commercial & Industrial	-257,487	-1.9%	-232,479	-1.7%
Large Commercial & Industrial	-191,818	-2.3%	-630,757	-7.2%
Street Lighting	-11,895	-8.1%	-8,891	-6.2%
Public Authority	-6,660	-9.4%	-1,991	-3.0%
Interdepartmental	-1,735	-18.8%	-2,301	-23.5%
Total Retail	-411,205	-1.3%	-1,043,743	-3.3%

Q. TURNING TO THE ISSUE OF CUSTOMER COUNTS, HOW DID THE 2016 ACTUAL CUSTOMER COUNTS COMPARE TO THE 2016 TEST YEAR CUSTOMER COUNTS FORECAST FILED IN THE COMPANY'S 2016 MYRP RATE CASE?

A. A comparison of the actual 2016 customer counts and the Company's 2016 test year forecasted customer counts is provided in Table 2 below. Total actual retail customer counts were 326 customers or 0.0 percent different than predicted for the 2016 test year.

Table 2

2016 Average Customer Counts by Class

Customer Class	2016 Customer Counts	2016 Xcel Energy Test Year Forecast	Difference	Difference %
Residential	1,131,107	1,131,309	-202	0.0%
Small Commercial & Industrial	131,350	131,498	-148	-0.1%
Large Commercial & Industrial	503	503	0	0.0%
Street Lighting	4,392	4,351	41	0.9%
Public Authority	2,056	2,073	-17	-0.8%
Interdepartmental	13	13	0	0.0%
Total Retail	**1,269,421**	**1,269,747**	**-326**	**0.0%**

Q. WHAT SALES FORECAST WAS ADOPTED BY THE COMMISSION IN THE 2016 MYRP?

A. In the 2016 MYRP (Docket No. E002/GR-15-826), we worked with the Department to agree on a mechanism to utilize actual weather normalized sales data for the setting of rates for the 2016 test year. This process allowed parties to take advantage of actual sales data rather than relying on the forecast, and the methodological differences therein. This is similar to the methodology we employed in the previous rate case in Docket No. E002/GR-13-868. It is helpful to recognize that, at the end of the day, the forecast is only an estimate for sales during a period of time. Actual sales are certainly more accurate than a forecast. We therefore agreed in prior rate cases to a test year true-up mechanism to ensure a more accurate sales forecast, and proposed a similar approach in this proceeding.

Q. HAS THE COMMISSION APPROVED ANY SUBSEQUENT SALES FORECAST TRUE-UPS?

A. Yes. As part of our True-Up Petition filed November 1, 2019, Xcel Energy proposed, and the Commission approved,[6] a 2020 sales true-up that would operate similarly to the sales forecast true-up established in our 2016 MYRP (Docket No. E002/GR-15-826) but that would apply to all customer classes.[7]

Q. IS THE COMPANY PROPOSING A SIMILAR SALES FORECAST TRUE-UP IN THIS CASE?

A. Yes, we propose to utilize a similar sales true-up mechanism as was utilized in the Company's 2020 True-Up Petition. This proposal is further discussed by Company witnesses Mr. Greg P. Chamberlain and Mr. Steven V. Huso.

Q. HOW DOES A TEST YEAR SALES TRUE-UP SUPPORT JUST AND REASONABLE RATES?

A. There is significant uncertainty in many of the factors in our forecast based on the changing utility landscape and the current pandemic and the economic recovery. Changing utility landscape factors include the impact of solar distributed generation and the increasing usage of electric vehicles. As these new technologies come on-line, our forecasts may or may not sufficiently

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[6] *In the Matter of Northern States Power Company d/b/a Xcel Energy for Approval of True-Up Mechanisms*, ORDER APPROVING TRUE-UPS AND REQUIRING XCEL TO WITHDRAW ITS NOTICE OF CHANGE IN RATES AND INTERIM RATE PETITION, Docket No. E002/M-19-688 (March 13, 2020).

[7] During the 2016 MYRP, the Company incorporated a Commission-approved decoupling pilot for Residential and Small Commercial and Industrial customer classes, along with a sales true-up for those classes not included in the decoupling pilot. That decoupling pilot expired on December 31, 2019.

capture their impact on sales – both higher and lower. In the event that these technologies have significantly higher adoption rates, a sales true-up helps to ensure that the Company can fully recover its cost of service. Just as importantly, if these technologies do not materialize as forecasted, we can ensure that rates are set reflecting the higher sales to help ensure that our customers are only paying for our cost of service.

Q. CAN YOU PROVIDE AN EXAMPLE OF HOW A SALES TRUE-UP WOULD PROTECT CUSTOMERS?

A. Yes. We have projected a 2021 sales level of 27,384,049 MWh. While we believe that this is the best prediction of 2021 sales, forecast uncertainty is unavoidable and sales simply cannot be predicted with 0.0 percent error. There are factors unknown today that could result in higher-than-forecasted sales or lower-than-forecasted sales. For example, there is much uncertainty around the depth and duration of the economic impact of the current pandemic. In addition, new large load could be added that has not yet been identified, and, conversely, additional large load could be lost. There also is some level of uncertainty around the adoption of distributed generation (DG) solar and electric vehicle charging. A sales true-up protects customers from these and other types of uncertainties.

Q. IF A TEST YEAR TRUE-UP IS UTILIZED, IS IT STILL IMPORTANT TO HAVE A REASONABLE SALES FORECAST?

A. Yes. Although, with the true-up, some of the subtle differences in forecasting methodologies become more of an academic exercise and will not ultimately

impact the customer's bill, the sales forecast should still be designed to provide the best prediction of sales. In this way, parties and the Commission can have confidence that our rates will be just and reasonable and can lessen the amount of scarce resources that need to be devoted to this issue.

Q. WILL PARTIES TO THIS PROCEEDING BE ABLE TO REVIEW IN ADVANCE THE CALCULATION THAT WOULD BE USED TO WEATHER NORMALIZE 2021 ACTUAL SALES FOR USE IN A TRUE-UP MECHANISM?

A. Yes. If a sales true-up mechanism is approved in this proceeding, we propose that the same methodology that was used to weather normalize 2016 actual sales in the 2016 MYRP would be used in this proceeding. That being said, it is appropriate to update the inputs to the calculation to reflect more current information. This includes the normal weather values and the weather response coefficients. With these agreed to in advance, then the weather normalization calculation would need only actual sales and actual customer counts in order to be completed.

Regarding the normal weather values, it would be reasonable to use the values created for the 2021 test year sales forecast, which are based on the average of 2000 to 2019 actual weather. I will discuss this in more detail in Section VII. In addition, Exhibit___(JEM-1), Schedule 5 provides the regression models and calculations of the weather response coefficients that I propose be used to weather normalize 2021 test year actual sales.

IV. CUSTOMER AND SALES FORECAST

Q. WHAT GEOGRAPHICAL AREA DOES THE SALES FORECAST REFLECT?

A. My testimony and exhibits reflect electric usage and customers in Xcel Energy's Minnesota service territory.

Q. PLEASE DESCRIBE THE CUSTOMER CATEGORIES INCLUDED IN XCEL ENERGY'S CUSTOMER AND SALES FORECASTS.

A. The following customer classes comprise Xcel Energy's electric customer and sales forecasts:

- *Residential without Space Heating* – residential service for domestic purposes excluding space heating;
- *Residential with Space Heating* – residential service for domestic purposes including space heating;
- *Small Commercial and Industrial* – commercial and industrial service requiring less than 1,000 kilowatts (kW) billing demand per month on average per year;
- *Large Commercial and Industrial* – commercial and industrial service requiring more than 999 kW billing demand per month on average per year;
- *Public Street and Highway Lighting* – street lighting service available for year-round illumination of public streets, parkways and highways;
- *Other Sales to Public Authorities* – public authority service including municipal pumping service and fire and civil defense siren service; and
- *Interdepartmental Sales* – electric sales made to Xcel Energy gas facilities.

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

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

1) The monthly and annual electric supply requirements;
2) Projected revenue under present rates; and
3) Projected revenue under proposed rates.

Q. WHAT IS XCEL ENERGY'S FORECAST OF ELECTRIC SALES AND CUSTOMERS FOR THE PERIOD JANUARY 1, 2021, THROUGH DECEMBER 31, 2025?

A. Exhibit___(JEM-1), Schedule 6 summarizes monthly MWh sales and number of customers for each customer class for the 2021 through 2025 time period. Table 3 below provides the annual forecasts for each of these years. As I previously discussed, total retail sales are expected to decrease from 27,701,857 MWh in 2020 to 27,195,314 MWh in 2025, which represents a -0.4 percent average annual change. Total retail customers are expected to increase from 1,314,238 in 2020 to 1,358,746 in 2025, representing a 0.7 percent average annual growth rate.

Table 3

Total Retail Sales and Customer Forecasts (2021-2025)

	Sales (MWh)	Year-End Customers
2021	27,384,049	1,319,518
2022	27,530,753	1,330,254
2023	27,364,557	1,340,380
2024	27,293,382	1,349,430
2025	27,195,314	1,358,746

Q. HOW DOES THE GROWTH IN THE NUMBER OF ELECTRIC CUSTOMERS IN 2021 THROUGH 2025 COMPARE WITH HISTORICAL CUSTOMER GROWTH?

A. The 0.7 percent projected average annual growth rate for total retail customers is the same as the historical growth rate. The total number of year-end electric retail customers in the Xcel Energy Minnesota service territory increased at an average annual rate of 0.7 percent from 2003 through 2019, or 8,571 customers per year on average. The largest class of customers is the Residential class, which represents 89 percent of total customers and has averaged a growth rate of 0.7 percent or 7,551 additions per year during the period from 2003 through 2019.

While annual growth in the number of electric customers has averaged 0.7 percent from 2003 through 2019, this growth has not been steady during this period of time. Customer growth in 2004 topped 22,000, followed by a decline of nearly 18,000 in 2005, and then growth in 2006 of more than 20,000. In 2005, the Company implemented a new billing system, and as I explain more fully in Section VIII of my testimony, the resulting customer-count definitional changes resulted in a reduction in the count of customers following the billing system conversion.

Year-end customer growth slowed in 2007, with only 11,400 customer additions (1.0 percent). When the economic recession hit in 2008, electric retail customer growth slowed to fewer than 8,500 new customers (0.7 percent), followed by very weak growth in 2009 of about 3,100 new customers (0.3 percent). Some recovery occurred in 2010, with nearly 8,800 customer additions (0.7 percent),

but then growth slowed again in 2011 and 2012, with only 5,300 and 5,800 new customers added (0.4 percent and 0.5 percent), respectively. Since 2013, growth has stabilized, with annual additions ranging between 8,900 and 11,300 customers per year (0.7 percent to 0.9 percent). I expect the retail customer additions to be lower than that range in 2020 and 2021 as a result of loss of customers due to pandemic-related business closures, adding only 8,200 customers (0.6 percent) in 2020 and 5,280 customers (0.4 percent) in 2020. I then expect a return to historical levels of growth, adding an average of 9,807 customers per year (0.7 percent) each year during the 2022 to 2025 time period. I will explain the methodologies used to develop this forecast in Section V through Section XI of my testimony.

Table 4 below provides the historical and forecast annual customer growth rate by class for the time period 2003-2025.

Table 4

2003-2025 Year-End Percent Change in Customers

	Residential	Commercial & Industrial	Street Lighting	Public Authority	Total Retail
2003-2019 Average	0.7%	0.7%	4.4%	-0.4%	0.7%
2020 Forecast	0.8%	-0.1%	2.6%	-26.9%	0.6%
2021 Forecast	0.6%	-1.0%	1.9%	-0.1%	0.4%
2022 Forecast	0.8%	0.8%	1.9%	0.2%	0.8%
2023 Forecast	0.7%	1.1%	1.6%	0.0%	0.8%
2024 Forecast	0.6%	1.1%	1.6%	-0.3%	0.7%
2025 Forecast	0.6%	1.0%	1.5%	-0.3%	0.7%

Q. PLEASE EXPLAIN WHY THE COMMERCIAL AND INDUSTRIAL CUSTOMER COUNT IS PROJECTED TO DECLINE IN 2020 AND 2021.

A. The projected decline in Commercial and Industrial customer counts is due to the expected lingering economic impacts of the COVID-19 pandemic, as I discussed earlier in my testimony, and is based on an increased number of businesses closing due to sustained business slowdowns.

Q. PLEASE EXPLAIN WHY THE STREET LIGHTING CUSTOMER COUNT GROWTH RATES ARE HIGHER THAN THE OTHER CLASSES.

A. The majority of the increase in the number of Street Lighting customers is occurring in the "customer owned metered street lighting" rate class where the customer, such as a municipality, owns and operates the street light system and the Company provides only the energy. An individual, non-metered street light within a customer owned street light system is not counted as an individual customer. However, a metered ornamental street light is counted as an individual customer. Therefore, when a Street Lighting customer replaces a non-metered street light with a metered ornamental street light, the customer count increases by one.

Q PLEASE EXPLAIN WHY THE PUBLIC AUTHORITY CUSTOMER COUNT DECLINES IN 2020.

A. Beginning in February 2020, customer counts in this class were reduced by 529 customers to remove Fire Siren service counts, which are no longer included in customer counts. Because of the small number of customers in the Public Authority class, a reduction of 529 customers results in a large percent change.

Q. HOW DO THE 2021 THROUGH 2025 FORECASTED ELECTRIC SALES COMPARE WITH HISTORICAL WEATHER-NORMALIZED ELECTRIC SALES?

A. As I previously explained, Xcel Energy's Minnesota service territory total electric retail sales are projected to decrease at an average annual rate of 0.4 percent during the 2021 to 2025 time period. This is less negative than the 0.7 percent decline we have seen from 2010-2019 (i.e., the period following the great recession), after normalizing for weather. During the 2010 through 2019 time period, Residential sales have declined 0.2 percent per year on average, while total Commercial and Industrial sales declined 0.9 percent per year on average. I note that due to the pandemic, sales growth in 2020 is expected to be significantly different than both the historical trend and the forecasted trend for 2021 through 2025.

Similar to the pattern seen in historical customer growth, the economic recession in 2008 and 2009 had a major lasting effect on sales, and the average annual growth rates prior to the recession were much larger than those during and following the recession. As shown below on Table 5, in 2009, retail sales declined a significant 3.4 percent from 2008 levels due to the recession. Following the recession, retail sales growth from 2010 to 2019 slowed to only 0.3 percent on average.

Since 2009, positive annual retail sales growth has been recorded in only three years (2010, 2011, and 2014) and the average annual rate of change has been -0.7 percent over the 2010 through 2019 time period. Primary factors contributing to the declining sales since 2009 are use per customer declines in the Residential

and Small Commercial and Industrial sectors due to energy efficiency and the loss of load for several Large Commercial and Industrial customers in 2012-2013 and 2017-2019. Table 5 below shows the growth by customer class for the pre-recession (2003-2007 average), during recession (2008, 2009), and post-recession time periods (2010-2019 average), along with our sales forecast growth for 2020 through 2025. For 2020 to 2021, we expect to see a continued declining sales trend with 2020 showing a dramatic decrease due to the pandemic. Sales in 2022 increase slightly overall due to increased sales to Commercial and Industrial customers, as we expect the economic recovery to result in more business returning to normal, pre-pandemic operations. However, the declining sales trend continues in 2023-2025.

Table 5

2003-2025 Percent Change in MWh Sales

	Residential	Commercial & Industrial	Street Lighting	Public Authority	Interdepart-mental	Total Retail
2003-2007 Average	1.3%	1.4%	1.2%	-3.8%	-3.5%	1.4%
2008	-1.7%	1.1%	0.2%	-9.9%	-41.7%	0.3%
2009	-0.3%	-4.7%	1.3%	-0.4%	29.5%	-3.4%
2010-2019 Average	0.1%	-0.4%	-1.7%	-2.6%	-5.5%	-0.3%
2020 Forecast	3.6%	-8.5%	-5.9%	-5.6%	-11.2%	-5.0%
2021 Forecast	-2.1%	-0.7%	0.0%	-2.5%	32.3%	-1.1%
2022 Forecast	-1.1%	1.3%	0.9%	-2.1%	0.0%	0.5%
2023 Forecast	-1.1%	-0.4%	0.8%	-1.7%	0.0%	-0.6%
2024 Forecast	-0.2%	-0.3%	0.7%	-1.6%	0.0%	-0.3%
2025 Forecast	-1.2%	0.0%	0.7%	-1.5%	0.0%	-0.4%

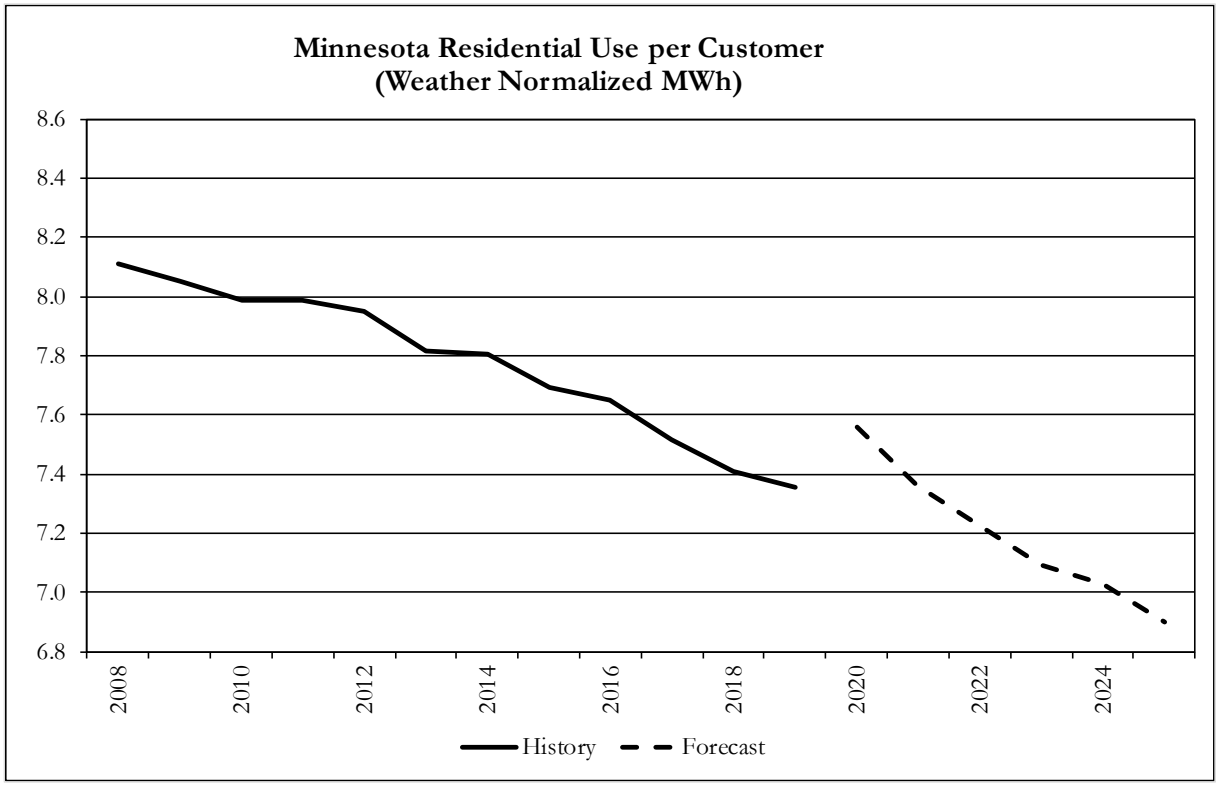
I will explain the methodologies used to develop this forecast in Section V through Section XI of my testimony.

Q. WHY ARE RESIDENTIAL SALES PROJECTED TO DECLINE 2.1 PERCENT IN 2021?

A. As I explained earlier in my testimony, sales to the Residential class have been very strong in 2020 due to the pandemic as customers are spending more time at home, and in some cases working from home. While I expect use per customer to remain strong in 2021, I expect it to be lower than 2020 levels as customers return to more normal, pre-pandemic, activities outside their home. This return to pre-pandemic activities results in a reduction in sales when compared to the very strong 2020 sales.

Sales to the Residential class have been exhibiting a declining trend since 2007, driven by declining use per customer. Although the number of customers continues to increase, the customer growth is not strong enough to offset the decline in use per customer. The forecast for 2022 through 2025 reflects this continued decreasing use per customer as seen in the past and as shown in Figure 5, below.

Figure 5



Q. WHAT IS THE DRIVER OF DECLINING USE PER CUSTOMER IN THE RESIDENTIAL CLASS?

A. One of the key drivers of declining residential use per customer is energy efficiency, including both Company-sponsored energy efficiency achievements as well as customer- and market-driven conservation outside of our programs. For example, according to the U.S. Energy Information Administration's *2020 Annual Energy Outlook*, residential lighting usage per household is expected to decrease an average of 3.4 percent per year from 2019 to 2025, with lighting's share of residential household consumption shrinking from 5.2 percent in 2019 to 4.4 percent in 2025. Declining usage per household is also projected for

electric space heating (-2.2 percent per year), televisions and related equipment (-2.0 percent per year), refrigeration (-1.4 percent per year), and water heaters (-0.7 percent per year). The information from the *2020 Annual Energy Outlook* is provided as Exhibit___(JEM-1), Schedule 7. I note that the *2020 Annual Energy Outlook* was released in January 2020, before the pandemic impacted the United States, and therefore does not reflect any pandemic-related impact on electricity consumption. While these efficiency gains will continue to dampen electricity sales after the pandemic impacts subside, overall residential use per customer in the near term is increasing due to pandemic-related factors that I have previously discussed.

Q. WHAT IS THE DRIVER OF DECLINING SALES IN THE COMMERCIAL AND INDUSTRIAL CLASS?

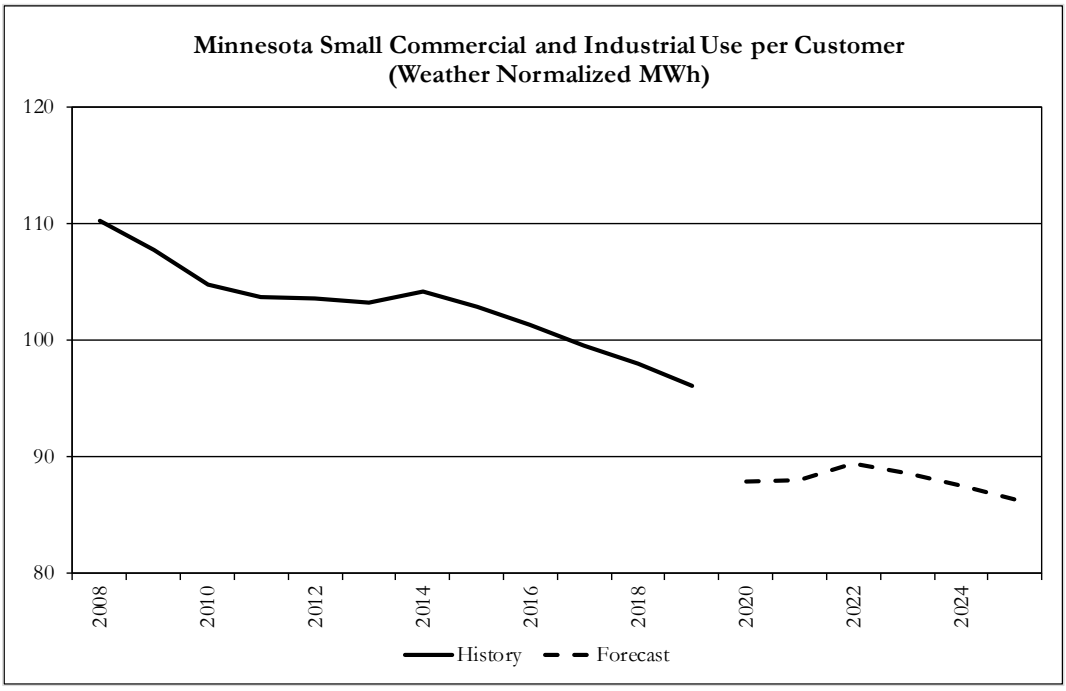
A. Sales in the Commercial and Industrial class are expected to decline due to declining use per customer in the Small Commercial and Industrial class and loss of load for specific customers in the Large Commercial and Industrial class.

Similar to the residential sector, use per customer in the Small Commercial and Industrial class historically has been declining, and energy efficiency is expected to continue to dampen growth during the forecast period, as shown in Figure 6 below. The *2020 Annual Energy Outlook* projects lighting usage per square foot in the commercial sector to decrease an average of 2.9 percent per year from 2019 to 2025. Declining usage per square foot in the commercial sector is also projected for computing (-1.9 percent per year), ventilation (-1.3 percent per

year), refrigeration (-1.0 percent per year), and space cooling (-0.9 percent per year).

In addition to these long-term trends in energy efficiency, Small Commercial and Industrial use per customer has been negatively impacted in 2020 by the COVID-19 pandemic and will continue to be negatively impacted in 2021, as I previously discussed. In particular, significant impacts have occurred in the "experience" economy industries such as accommodations and food services, and arts, entertainment and recreation, as well as in the retail sales and educational services sectors. I expect these impacts to gradually ease throughout 2021 and 2022 and use per customer to return to the long-established declining trend driven by energy efficiency after 2022.

Figure 6



Q. PLEASE DESCRIBE SALES TRENDS IN THE LARGE COMMERCIAL AND INDUSTRIAL CLASS SINCE THE LAST ECONOMIC RECESSION.

A. From 2008 to 2019, sales to the Large Commercial and Industrial class have declined by more than 1.8 million MWh or 19.3 percent. The Large Commercial and Industrial sector suffered a significant impact from the economic recession in 2008 and 2009, with sales declining 9.5 percent in 2009. This class saw considerable recovery in 2010, with sales growth of 5.9 percent. In 2011, sales growth in this class slowed to only 0.1 percent. Sales in the Large Commercial and Industrial class then declined significantly in 2012 (-4.7 percent) and 2013 (-4.0 percent) due in large part to shutdowns at two large customer sites, Ford Motor Company and Verso Paper Corporation. Loss of load from other large customers caused sales in the class in 2014 to decline another 1.4 percent, followed by a small increase of 0.4 percent in 2015. Sales declined again in 2016 and 2017 (-0.6 percent and -0.8 percent, respectively), with the 2017 decline due in large part to a customer adding combined heat and power (CHP) operations at their location. A 0.5 percent increase in sales in 2018 was then followed by a 6.2 percent decline in 2019 due to additional CHP operations and plant closures.

Since the Company's 2016 MYRP 2016 test year, sales have declined by 538,000 MWh or 6.6 percent. When projected 2020 sales losses are included, the total loss since 2008 is more than 2.5 million MWh or 26.8 percent, and since 2016 the total loss is more 1.2 million MWh or 15.2 percent. In many cases, these types of declines are hard to predict and are due to circumstances outside of our control like plant closures or changes in the customer's operations.

Based on information provided by Xcel Energy's Large Account Management department, continued loss of load is expected for 2021 due to incremental losses from a full year of the losses that began in 2020. We do, however, expect these losses to be partially offset by additional load from specific customers. After 2021, the Large Commercial and Industrial sales forecast has been adjusted to account for additional loss of large loads as well as the addition of anticipated new loads. The adjustments made to the Large Commercial and Industrial sales forecast are provided in Exhibit___(JEM-1), Schedule 8 and discussed in more detail in Section XI of my testimony.

Q. PLEASE DISCUSS THE SALES FORECAST FOR THE STREET LIGHTING CLASS.

A. Sales in the Street Lighting class have declined over the past several years due to the installation of more efficient LED lighting. Sales are expected to be flat in 2021, and then to resume increasing.

Q. HOW DOES THIS FORECAST COMPARE TO THE MINNESOTA SALES FORECAST IN THE COMPANY'S 2021 FUEL COST ADJUSTMENT FILING (DOCKET NO. E002/AA-20-417) AND THE MINNESOTA STATE PORTION OF THE SYSTEM FORECAST IN THE COMPANY'S 2019 RESOURCE PLAN SUPPLEMENT (DOCKET NO. E002/RP-19-368)?

A. A comparison of this Rate Case forecast with the Fuel Cost Adjustment forecast and the Resource Plan Supplement forecast is provided in Table 6 and Figure 7 below. The Fuel Cost Adjustment forecast was developed in the first quarter of 2020 based on historical data through December 2019 and did not include any impacts from the COVID-19 pandemic. The Resource Plan forecast was

developed in the fall 2019 based on historical data through May 2019 and also did not include any impacts from the COVID-19 pandemic. Differences between the forecasts are due to:

1) incorporating more actual customer, sales, and weather data,
2) updating the economic and demographic variables with the most currently available information, which includes the expected economic and demographic impacts related to the COVID-19 pandemic,
3) updating the behind-the-meter solar generation forecasts,
4) updating the assumptions regarding new load additions and reductions,
5) updating the forecast of the impact of electric vehicle charging,
6) updating the DSM forecast, and
7) updating the forecast to include Integrated Volt-Var Optimization impacts in 2024, which began with the Fuel Cost Adjustment filing in Docket No. E002/AA-20-417.

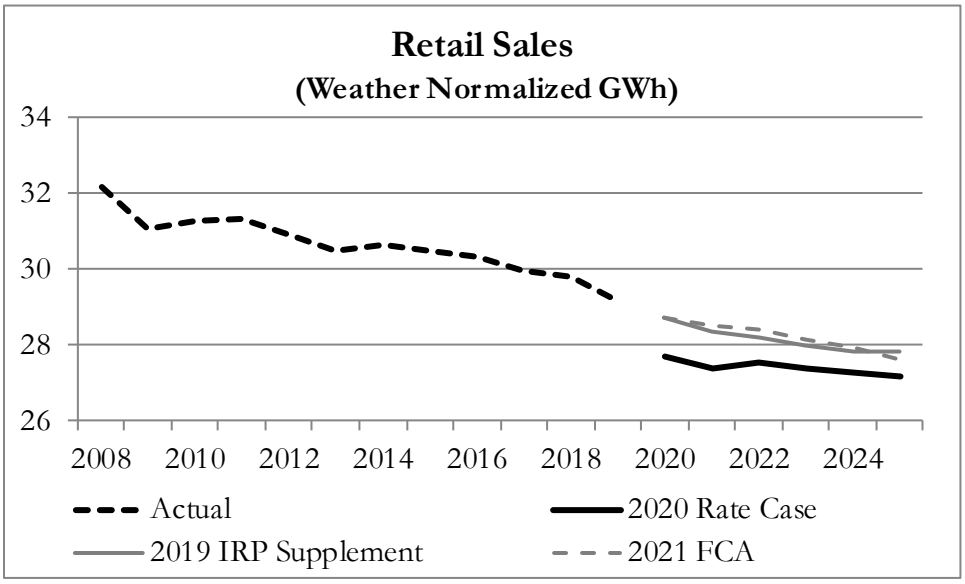
As seen in Table 6, the annual percentage differences between the Rate Case forecast and the Resource Plan forecast range between -3.4 percent and -1.9 percent. The annual percentage differences between the Rate Case forecast and the Fuel Cost Adjustment range between -3.9 percent and -1.6 percent. The primary driver of these differences is the impact of the COVID-19 pandemic in 2020 and the associated slow economic recovery after 2020.

Table 6

Electric Forecast Comparisons (MWh)

	2020 Rate Case	2019 Resource Plan Supplement	MWh Difference	% Difference	2019 Fuel Cost Adjustment	MWh Difference	% Difference
2021	27,384,049	28,338,918	-954,869	-3.4%	28,494,664	-1,110,615	-3.9%
2022	27,530,753	28,203,983	-673,230	-2.4%	28,387,955	-857,202	-3.0%
2023	27,364,557	27,993,013	-628,456	-2.2%	28,131,865	-767,307	-2.7%
2024	27,293,382	27,828,041	-534,658	-1.9%	27,930,521	-637,138	-2.3%
2025	27,195,314	27,812,888	-617,574	-2.2%	27,632,140	-436,826	-1.6%

Figure 7



Q. DO YOU BELIEVE THE ECONOMIC RECOVERY FROM THE PANDEMIC COULD OCCUR AT A FASTER RATE THAN YOU ARE PROJECTING?

A. That is possible. The economic recovery could also occur at a slower rate than projected. While we are using IHS Markit's baseline scenario rather than incorporating the potential for faster or slower growth, we will continue to monitor the economic outlook as this case proceeds.

Q. IS IT ALSO POSSIBLE THAT NEW CUSTOMERS OR INCREASED SALES TO EXISTING CUSTOMERS THAT ARE NOT CURRENTLY REFLECTED IN YOUR FORECAST WILL DEVELOP?

A. Yes. We continually explore opportunities with new and existing customers and some of those could well develop during the course of this proceeding. Our forecasts do reflect anticipated new customers in all customer classes.

Q. WILL PARTIES TO THIS PROCEEDING HAVE THE OPPORTUNITY TO REVIEW MORE CURRENT INFORMATION AS THIS CASE PROGRESSES?

A. Yes. We will make available to parties more current information as the case progresses through Rebuttal or Surrebuttal Testimony, or both. This information and expected trends can be reviewed by parties to provide assurance that the sales forecast we have used to set rates in this proceeding continues to be appropriate for ratemaking purposes. In addition, this information can be used as a basis for a test year true-up mechanism. If, through the course of this proceeding, the updated information and expected trends indicate that the Company's sales forecast is either too high or too low, then our rates will be too low or too high. Should more current information indicate that adjustments to the forecast are needed, we will work with parties

to see that appropriate steps are taken to ensure our sales forecast has the advantage of the most current information available.

V. OVERVIEW OF SALES AND CUSTOMER FORECASTING METHODOLOGY

Q. PLEASE DESCRIBE IN GENERAL TERMS THE METHODS USED TO FORECAST SALES AND CUSTOMERS.

A. The sales forecast for the 2021 through 2025 financial budget was completed in July 2020 and was based on actual customers and sales through May 2020. In order to provide the most up-to-date information at the time this testimony was written, I have replaced forecast values for June and July 2020 with actual values. The Sales, Energy and Demand Forecasting department coordinated the electric sales and customer forecast preparation using a combination of econometric and statistical forecasting techniques and analyses to develop the sales and customer forecasts. These techniques are used to develop sales and customer forecasts for all of Xcel Energy's jurisdictions. In addition, these techniques were used by the Department in prior proceedings to develop its proposed sales and customer forecasts.

Q. HOW WERE THE SALES FORECASTS DEVELOPED FOR THE RESIDENTIAL, SMALL COMMERCIAL AND INDUSTRIAL, LARGE COMMERCIAL AND INDUSTRIAL, PUBLIC STREET AND HIGHWAY LIGHTING AND PUBLIC AUTHORITY CUSTOMER CLASSES?

A. Regression models were developed as the foundation for the sales forecasts of

the Residential without Space Heating, Residential with Space Heating, Small Commercial and Industrial, Large Commercial and Industrial, Public Street and Highway Lighting, and Public Authority customer classes. The regression models were developed using the Metrix ND[8] 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 the independent predictor variables, including historical economic and demographic indicators, historical weather (expressed in heating degree days (HDD) and temperature-humidity index (THI)), and historical number of customers. In all of the models, monthly historical data from January 2003 through May 2020 was used to determine these relationships. The modeled relationships were then simulated over the forecast period by assuming normal weather (expressed in terms of 20-year-averaged HDD and THI) and the projected levels of the independent predictor variables.

[8] Metrix ND 4.7, Copyright © 1997-2016, Itron, Inc., http://www.itron.com.

Q. WHAT PROCESS WAS USED TO FORECAST SALES IN THE INTERDEPARTMENTAL CUSTOMER CLASS?

A. Sales in the Interdepartmental customer class make up only 0.02 percent of total retail electric sales in Minnesota in 2019. The forecast for Interdepartmental sales was calculated by averaging historical monthly sales over the past three years of actual data. Using an averaging method to forecast sales is appropriate in circumstances where the class is small, such as with the Interdepartmental class, and the circumstances in the forecast period for that class are expected to be similar to the historical period used.

Q. DOES THE COMPANY USE BINARY VARIABLES IN THE FORECAST MODEL?

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

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

A. The number of customers by customer class for the classes Residential without Space Heating, Residential with Space Heating, Public Street and Highway Lighting, and Public Authority is forecasted using demographic data for the Minneapolis-St. Paul metropolitan area and the state of Minnesota in regression models and other statistical techniques. The customer forecast for the Small

Commercial and Industrial class was developed based on the average annual growth rate over the past seven years, with a very small decay factor of -0.01 percent per year. The seven-year historical time period was chosen because annual growth rates during this time have been in a small range of 0.31 percent to 0.71 percent. The Large Commercial and Industrial class customer forecast was based on the last actual value, then decreased by one customer per year in each year during the 2021 through 2025 time period to reflect a slowly declining trend. The customer forecast for the Interdepartmental customer class was developed by averaging the monthly number of customers from June 2019 through May 2020.

VI. 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___(JEM-1), Schedule 9, and the regression models and associated analysis used in Xcel Energy's statistical projections of customers are provided in Exhibit___(JEM-1), Schedule 10. 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 a number of 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 forecast for the Residential without Space Heating, Residential with Space Heating, Small Commercial and Industrial, Large Commercial and Industrial, and Public Street and Highway Lighting classes demonstrate very high R-squared statistics, ranging between 0.902 and 0.988. The historical sales in the Public Authority class, which accounts for 0.2 percent of total retail electric sales, exhibit more variability that is not fully explained with economic variables, resulting in a lower R-squared statistic. However, the combination of variables used in the regression model for this class explains a large amount of the historical variation, with an R-squared statistic of 0.776. The regression models used to develop the customer forecast demonstrated very high R-squared statistics, ranging between 0.995 and 0.999.

The t-statistics of the variables indicate 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, the absolute value of each t-statistic should be greater than 1.960 to be considered statistically significant at the 95 percent confidence level. This standard was applied in the development of the regression models used to develop the sales forecast. The final regression models used to develop the sales forecast tested satisfactorily under this standard.

While the Company generally adheres to the 95 percent confidence level to ensure that the impact of a variable is meaningful, this is a guideline rather than a hard and fast rule. Including a variable with a lower level of significance is statistically acceptable, and its inclusion does not necessarily make the model invalid or result in an unreliable forecast.

In this forecast, there are two cases where the variable in question does not meet this standard. In the Residential without Space Heat sales model, the t-statistic for the May THI variable is statistically significant at the 91 percent confidence level. In the Large Commercial and Industrial sales model, the t-statistic for the first-order autocorrelation correction term is statistically significant at the 93 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 overestimation in one period is likely to lead to an overestimation 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. 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.

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' 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. WHAT RECENT CHANGES HAS THE COMPANY MADE TO ITS METHODOLOGIES?

A. Since the Company's 2016 MYRP (Docket No. E002/GR-15-826), the Company has changed the methodology for forecasting Small Commercial and Industrial customers and Large Commercial and Industrial customers from a regression model approach to a trend approach. The Company determined that the customer counts in these two classes did not track well with economic indicators or other explanatory variables needed for a regression model, and therefore changed to a trend approach that does not require economic indicators or other explanatory variables.

In addition, the Company no longer uses a price variable in the sales forecast models. As additional historical data was added to the regression models, the model results indicated that the price variable was no longer significant or added very little value to the overall model results, and therefore it has been dropped as an explanatory variable.

Q. HAS THE COMPANY CHANGED HOW IT ACCOUNTS FOR FUTURE DSM IMPACTS?

A. No. In the Company's 2016 MYRP (Docket No. E002/GR-15-826), the Company adjusted the forecast to account for DSM. While the Department did not agree with this adjustment, a settlement agreement was reached to use weather-normalized actual 2016 test year sales to set rates, and the issue of the DSM methodology was not addressed. Because the Company continues to

believe it is appropriate to adjust for future DSM, we used the same methodology to account for DSM as used in the last rate case. We note, however, that any debate on this issue becomes unnecessary if we reach agreement on a true-up mechanism.

Q. PLEASE DESCRIBE THE METHODOLOGY THE COMPANY USED IN THIS PROCEEDING TO ACCOUNT FOR FUTURE DSM IMPACTS.

A. The Company accounted for future DSM impacts by first developing a forecast that included no impacts of DSM, then adjusting that forecast to account for future DSM impacts, related to both historical achievements with continuing impacts and planned future new programs. I discuss the adjustment of historical sales in Section VIII of my testimony.

Q. IS THIS THE SAME METHODOLOGY THE COMPANY USED TO ACCOUNT FOR FUTURE DSM IMPACTS IN DOCKET NOS. E002/GR-13-868 AND E002/GR-15-826?

A. Yes. We have adjusted the sales forecast to account for future impacts of DSM programs for many years, not only for rate cases but also for resource planning purposes. Because the Company has previously achieved savings from DSM programs, some level of impact is already embedded in the historical sales used in the regression models. Therefore, prior to Docket No. E002/GR-13-868, the Company adjusted the sales forecast only for the incremental amount of DSM, *i.e.*, the amount of expected future DSM that is greater than or incremental to the amount of DSM inherently embedded in the sales forecast.

In Docket No. E002/GR-12-961, the Department asserted that DSM was fully embedded in historical sales, and therefore no adjustment to future sales was necessary. At that time, the Department based its recommendation on the fact that since 2007, when the Next Generation Energy Act (NGEA) was enacted, the Company's DSM achievements had leveled off, and future expected savings were at a level similar to the past few years of actual savings. The Department continued to assert that no DSM adjustment was necessary in Docket Nos. E002/GR-13-868 and E002/GR-15-826.

Q. DID THE COMPANY AGREE WITH THE DEPARTMENT'S ASSERTIONS?

A. No. The Company has disagreed with the Department's assertions in the past and continues to believe that a DSM adjustment is needed. The Company's DSM achievements have increased since 2007 and are expected to be even higher in the next few years, based on the Company's projected savings in its July 1, 2020 Resource Plan Supplement (Docket No. E002/RP-19-368). This requires an adjustment to be made to the sales forecast in order to account for the difference between actual historical DSM achievements and projected future DSM achievements. The Company's methodology in this proceeding provides a transparent and reliable method to account for the impacts of future DSM. Again, however, any debate on this issue becomes unnecessary if the parties and Commission agree to a true-up as recommended by the Company in Section III of my testimony.

VII. WEATHER NORMALIZATION OF SALES FORECAST

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

A. Residential without Space Heating, Residential with Space Heating, and Small Commercial and Industrial 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, as measured in terms of HDD and THI, 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 and THI variables included in each class's model. Forecasted sales were then projected by simulating the established statistical relationships over the forecast horizon assuming normal weather.

For the Large Commercial and Industrial, Public Street and Highway Lighting, Public Authority, and Interdepartmental classes, forecast volumes have not been weather normalized. These customers' use of electricity is influenced by factors other than weather (for example, hours of daylight). As a result, the weather impact due to deviation from normal weather is indistinguishable from other variables.

Q. HOW WAS NORMAL WEATHER DETERMINED?

A. Normal daily weather was calculated based on the average of historical HDD and THI for the 20-year time period 2000 to 2019. 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.[9] These normal HDD and THI were related to the forecasted billing month in the same manner as were the actual HDD and THI.

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

A. The measure of weather used was HDD and THI, using a 65-degree temperature base. This information was obtained from the National Oceanic and Atmospheric Administration (NOAA), as measured at its Minneapolis-St. Paul 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. The majority of Xcel Energy's Minnesota electric customers (81 percent) reside within the Minneapolis-St. Paul metropolitan area. The majority of the remaining 19 percent reside less than 100 miles from Minneapolis-St. Paul.

[9] 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, and E002/GR-15-826.

The coefficients for the HDD and THI variables that were 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 2021-2025 period, 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 and THI were weighted by the number of times a particular day was included in a particular billing month. These weighted HDD and THI were divided by the total billing-cycle days to arrive at average daily HDD and THI for a billing month.

Q. HOW DOES THE WEATHER NORMALIZATION METHODOLOGY USED IN THIS CASE COMPARE WITH THE METHODOLOGY USED IN DOCKET NO. E002/GR-15-826?

A. The methodology we are using for this case is the same as the final methodology used in the previous case. 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.

VIII. 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. Monthly historical data from January 2003 through May 2020 was obtained and used. This period provides a common start date for all regression models of sales, which addressed an issue raised by the Department in previous discussions. The starting period in the Company's last electric rate case was 1998. The Company has moved to a 2003 starting period because this eliminates needing to provide explanation and use of explanatory binary variables for the reclassification of sales that occurred in 2001, while still providing a sufficient number of data points to provide reliable statistical estimates.

Q. WHAT IS THE SOURCE OF THE COMPANY'S PRE-FEBRUARY 2005 SALES INFORMATION?

A. All of the pre-February 2005 billing data is from Xcel Energy's legacy billing system (CSS).

Q. WHAT IS THE SOURCE OF THE COMPANY'S POST-FEBRUARY 2005 SALES INFORMATION?

A. In February 2005, the Company converted from CSS to the CRS billing system. Most 2005 data will be from CRS. The definition of a billing month is different under CRS from the definition of a billing month under CSS. Consequently,

the data presented by the post-February 2005 CRS monthly billed sales will not be entirely consistent with the data presented by CSS prior to 2005. However, the definitional differences have been addressed by calculating both billing-month weather and billing-cycle days using the same billing-cycle information underlying the billing-month sales.

Q. COULD YOU PLEASE EXPLAIN OTHER AREAS OF DIFFERENCE BETWEEN CSS AND CRS DATA?

A. Yes. With the conversion from CSS to CRS, the number of customers in 2005 appears lower than it would have been under CSS. Analysis conducted prior to system conversion indicated that CRS would report fewer customers than CSS just based on tests of the change in the definition of active services. These resulted from small definitional changes in what constitutes an active services account needed to bring uniformity between the former NCE system and the former NSP system into a consistent customer count method under CRS. While there were pre-2005 customer count differences under the NCE and NSP systems prior to 2005, these customer count definitional differences did not impact the amount of total sales billed to customers. Exhibit___(JEM-1), Schedule 11, provides a detailed comparison of the 2005 definitional changes.

Q. DID YOU MAKE ANY ADJUSTMENT TO THE CUSTOMER COUNTS AS A RESULT OF THESE CHANGES?

A. No, I did not adjust the customer counts. However, in order to maintain the January 2003 to May 2020 sample time period and account for the definitional changes, a step-change binary variable was incorporated in the Residential

customer regression models. The binary variable equaled "1" in months prior to the billing system conversion in February 2005, and "0" for all months after the conversion. The use of the binary variable in the regression models provided a better statistical fit to the historical data.

Q. WERE ANY ADJUSTMENTS MADE TO HISTORICAL SALES TO ADDRESS BILLING ERRORS?

A. No, none were needed. In the Company's last natural gas rate case, Docket No. G002/GR-09-1153, the Company adjusted historical gas sales to address billing errors resulting from mechanical failures of some meter-reading modules, problems with another type of meter-reading module, and errors in pressure correction factors. In preparation for this proceeding, the Company has identified no such billing errors with electricity sales, and, therefore, no adjustments have been made to historical sales.

Q. WERE ANY OTHER ADJUSTMENTS MADE TO HISTORICAL SALES?

A. Yes. The Company has removed sales to two large customers (Ford Motor Company and Verso Paper Corporation) from the historical data series. As I previously discussed, these two large customers closed during 2012 and 2013, resulting in a substantial loss of load in the Large Commercial and Industrial sector. By removing these large customers' sales from the historical data series, we no longer have the large decreases in sales occurring at the time the customer closed its business. Therefore, we are able to continue to use the regression methodology, which allows for the identification of historical relationships and the projection of those relationships into the future.

In addition, historical sales were adjusted to remove the impact of actual DSM achievements and DG solar. We collected monthly historical data on actual DSM achievements and DG solar by class and added these amounts to historical actual monthly sales to derive sales excluding the impact of DSM achievements and DG solar. This restated time series was used as the input data to the regression modeling process described above, and a forecast of sales excluding any DSM or DG solar impacts was developed. We then reduced the forecast of sales excluding DSM and DG solar by the amount of future DSM related to both historical achievements with continuing impacts and planned future new programs and future DG solar amounts.

Q. HAS THE COMPANY MADE ANY CHANGES IN PRESENTATION OF ITS FORECASTING INFORMATION TO ADDRESS ISSUES RELATED WITH ACCOUNTING FOR THE LOSS OF LARGE COMMERCIAL AND INDUSTRIAL LOAD RAISED BY THE DEPARTMENT IN DOCKET NO. E002/GR-15-826?

A. Yes. In our 2016 MYRP, the Department asserted that the historical input data for the Large Commercial and Industrial class incorrectly double-counted a reduction for Verso and Ford. I investigated this assertion during that rate case and determined that the historical input data was correctly calculated, and no double-count occurred. However, I also determined at that time the Company provided incorrect data in its demonstration of how the adjusted sales were calculated. The Company has corrected how this type of information is presented to eliminate any confusion.

Q. WHY DID YOU REMOVE THE IMPACT OF ACTUAL DSM ACHIEVEMENTS FROM HISTORICAL SALES?

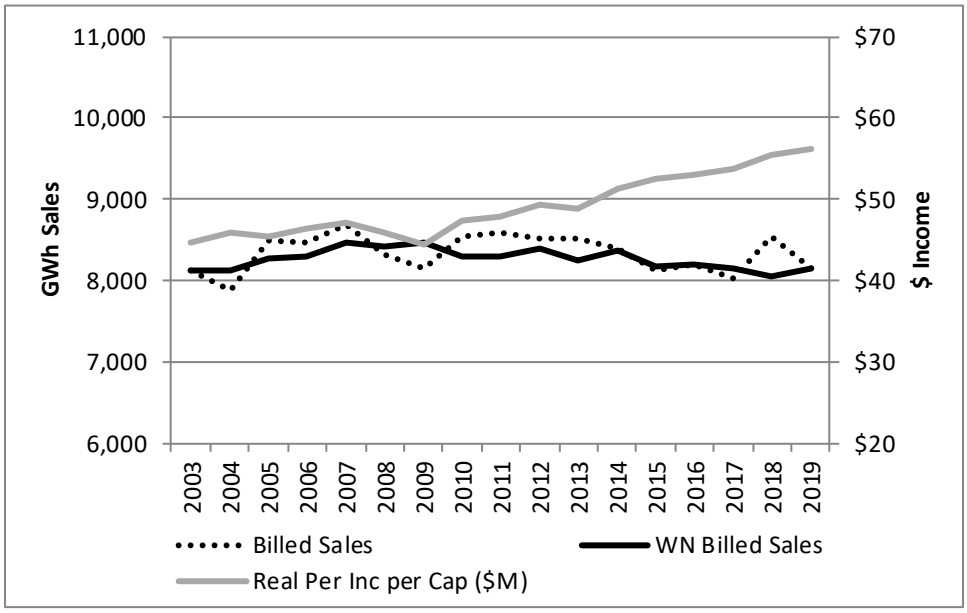
A. There are several approaches in the electric utility industry for accounting for DSM impacts in a sales forecast. One methodology is to develop the forecast based on actual sales and then adjust the forecast for incremental DSM impacts, *i.e.,* impacts greater than the amount embedded in the historical sales. Another approach is to add back historical achievements before developing the regression model. As I briefly discussed in Section VI of my testimony, the model results are then adjusted by the expected amount of continuing historical DSM impacts and future DSM impacts.

The Company uses this "add-back" method, because we have a long history of DSM achievements, which, when accumulated over time, have changed the rate of electric sales growth. This has resulted in a disconnect between historical sales growth and growth in the underlying economic indicators. Figure 8 below graphically demonstrates this by showing historical annual billed sales for the Residential without Space Heat class and Minnesota real personal income per capita. As seen in Figure 8, real personal income per capita has increased throughout the 2003 to 2019 time period, with decreases seen in only a few years, followed by continued increases. Sales, however, peaked in 2007 and, after weather-normalizing, have been generally decreasing since then. This disconnect between sales and the economic indicator, i.e., decreasing sales and increasing economic values, leads to challenges in creating theoretically reasonable regression models.

Figure 8

Residential Without Space Heat Sales

Vs. MN Real Personal Income Per Capita

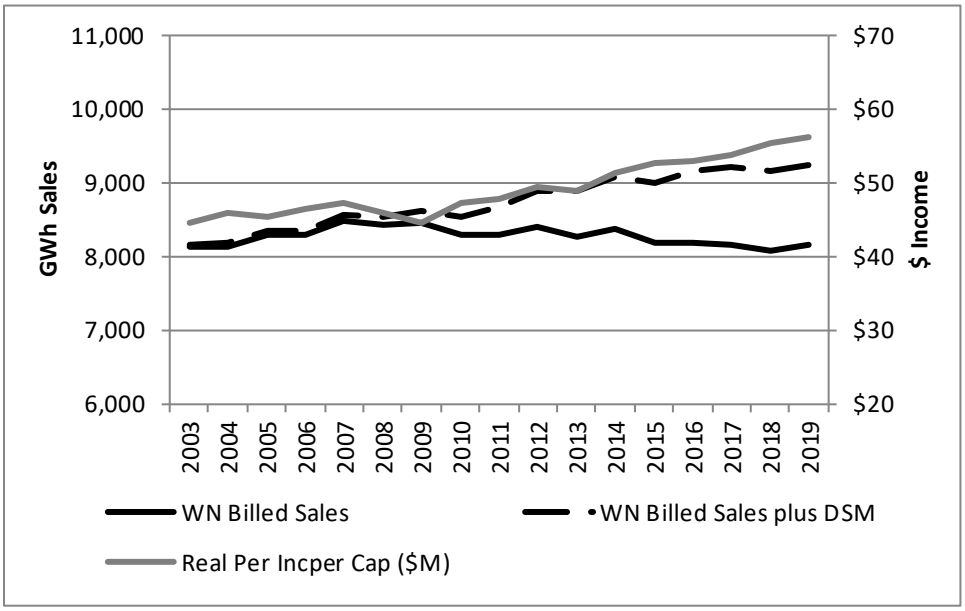


This disconnect can be resolved, however, by adjusting the historical sales to remove the source of the declining sales. This is demonstrated in Figure 9 below, where historical DSM achievements have been added back to historical sales. To minimize the number of lines in Figure 9, only weather-normalized historical sales are shown. After adding back the DSM, the adjusted sales increase over time, which is positively correlated with the economic indicator and results in a theoretically reasonable regression model.

Figure 9

Residential Without Space Heat Sales With DSM Add Back

Vs. MN Real Personal Income Per Capita



Q. WHY DID YOU REMOVE THE IMPACT OF ACTUAL DG SOLAR FROM HISTORICAL SALES?

A. While DG solar has not been impacting sales for as long or at the same levels as Company-sponsored DSM programs, the rationale for adjusting the historical data is the same as the DSM adjustment. Applying this add-back methodology for both DSM and DG solar allows for a transparent means to account for both the historical and expected future impacts of these factors that influence sales growth.

Q. PLEASE SUMMARIZE THE ADJUSTMENTS MADE TO HISTORICAL SALES BEFORE CONDUCTING THE REGRESSION MODELING.

A. The Large Commercial and Industrial sales were adjusted by subtracting historical sales for two large customers that have been closed down (Ford Motor Company and Verso Paper Corporation) and by adding back the impacts of historical DSM savings and DG solar. In addition, the Residential without Space Heating, Residential with Space Heating, and Small Commercial and Industrial sales were adjusted by adding back the impacts of historical DSM savings and DG solar.

Q. WHAT IS THE SOURCE OF WEATHER DATA?

A. As I explained previously, weather data was obtained from NOAA's Minneapolis-St. Paul weather station. The Company uses both HDD and THI in the forecasting process. 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 1999 to 2018.

Average actual dew point temperature based on the eight readings of dew point temperature was also calculated for each day. The Company calculates THI were calculated for each day using the formula:

$$THI = 17.5 + (0.55 * \text{Dry Bulb}) + (0.2 * \text{Dew Point})$$

THI degree days are calculated by subtracting the base of 65°F from each day's average THI (not less than zero).

Q. WHAT WAS YOUR 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. These variables include population, households, total employment, real personal income per capita, and the Minnesota Industrial Production Index, Total Manufacturing. 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 free 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 Department 30 days prior to filing this general rate case, we included documentation about 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 provided a comparison of the historical data provided by IHS Markit to the original source data where the data was available via the internet. In instances where there were variances between the original source data and the data provided by IHS Markit, we worked with IHS Markit to obtain satisfactory explanations for the variances.

IX. UNBILLED SALES

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

A. Yes. Unbilled sales reflect electricity consumed in the current month that is not billed to the customer until the succeeding month. Xcel Energy reads electric 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.

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.

X. CALENDAR-MONTH SALES DERIVATION

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

A. For the Residential without Space Heating, Residential with Space Heating, and Small Commercial and Industrial classes, Xcel Energy calculated the forecasted 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 and THI, 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 (or THI) and number of customers), times billing-month normal HDD (or THI), times the projected 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 (or THI) and number of customers) and the calendar-month normal HDD (or THI).

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

For the Large Commercial and Industrial class, Xcel Energy calculated the forecasted calendar-month sales simply based on the projected billing-month sales in the same manner as detailed for Residential with Space Heating, Residential without Space Heating, and Small Commercial and Industrial classes. However, for the Large Commercial and Industrial and Public Authority classes, there are no total weather load sales. The forecasted calendar-month total sales for this class were calculated only in terms of their projected billing-month sales, number of days in the billing month, and number of days in the calendar month.

The Public Authority, Public Street and Highway Lighting, and Interdepartmental classes are billed on a calendar-month basis and are assumed not to be weather sensitive. Therefore, for these classes, the calendar-month sales equal the billing-month sales.

XI. FORECAST ADJUSTMENTS

Q. WERE ANY POST-MODELING ADJUSTMENTS MADE TO THE STATISTICALLY MODELED SALES FORECAST RESULTS?

A. Yes. In addition to the derivation of calendar-month sales discussed in Section X of my testimony, the Residential without Space Heat, Residential with Space Heat, Small Commercial and Industrial and Large Commercial and Industrial classes were adjusted to account for 1) the expected impact from electric vehicle charging, 2) distributed behind-the-meter solar generation, 3) the impacts of Company-sponsored DSM programs, and 4) small potential impacts in 2024 and 2025 due to the implementation of Integrated Volt-Var Optimization (IVVO). The Large Commercial and Industrial sales forecast has been adjusted for customer-specific load additions or losses. The Small Commercial and Industrial customer forecast has been adjusted to account for the loss of customers due to business closures. These adjustments are provided in Schedule 8.

Q. PLEASE EXPLAIN THE ADJUSTMENT MADE FOR ELECTRIC VEHICLE CHARGING.

A. The penetration of light-duty electric vehicles in Xcel Energy's service territory has been increasing over the past few years and is expected to continue increasing. Because the penetration of electric vehicles is expected to increase, the sales forecasts for the Residential without Space Heat and Residential with Space Heat classes have been adjusted to account for future Residential electricity usage from the home charging of electric vehicles. In addition, the Small Commercial and Industrial and Large Commercial and Industrial sales

forecasts have been adjusted to account for future electricity usage from the charging of medium-duty and heavy-duty electric vehicles in Xcel Energy's service territory. The assumption about the number the electric vehicles and the expected MWh sales impact was developed by Xcel Energy's Risk Management department.

Q. PLEASE EXPLAIN THE ADJUSTMENT MADE FOR CUSTOMER-SPECIFIC LOAD ADDITIONS OR LOSSES.

A. Based on input from Xcel Energy's Key Account Managers, specific known future load additions or losses are quantified, and corresponding adjustments were made to the Large Commercial and Industrial sales forecast. These adjustments were made because the impact of the additions or losses are not correlated with the economic indicator used in the Large Commercial and Industrial sales model, and, therefore, are not accounted for in the model output.

In addition, the forecast has been adjusted in 2022 through 2025 to account for additional losses of large customer loads as well as the addition of anticipated new loads. The adjustment for additional loss of load is made to reflect the historical trend of load losses. The assumption used is that each year the Company will lose approximately 100,000 MWh of sales due to factors such as changes in customers' operations, relocation outside of the service area, or the addition of combined heat and power operations. This reduction is in line with the declining sales trend seen in the past and is based on an analysis of our 50 largest customers.

Q. PLEASE EXPLAIN THE ADJUSTMENT MADE FOR DISTRIBUTED BEHIND-THE-METER SOLAR GENERATION.

A. The sales forecasts for the Residential without Space Heat, Residential with Space Heat, Small Commercial and Industrial and Large Commercial and Industrial classes have been adjusted to account for reductions due to customers' behind-the-meter solar generation. The adjustments are based on expected installed capacity targets (both Solar*Rewards and non-Solar*Rewards).

Q. PLEASE EXPLAIN THE ADJUSTMENT FOR FUTURE DSM IMPACTS.

A. The sales forecasts for the Residential without Space Heat, Residential with Space Heat, Small Commercial and Industrial and Large Commercial and Industrial classes have been adjusted to account for the continuing impacts of historical DSM programs and future DSM programs. The basis for the future DSM adjustment is the Minnesota Resource Plan Supplement.

XII. RATE SCHEDULE FORECAST DERIVATION

Q. IN ADDITION TO THE CUSTOMER CLASS LEVEL FORECAST YOU DESCRIBED ABOVE, DOES THE COMPANY ALSO PREPARE A FORECAST AT THE RATE SCHEDULE LEVEL OF DETAIL?

A. Yes. The rate schedule level of detail is needed to appropriately estimate revenues. For example, the Residential class of service is an aggregation of multiple rate schedules: Residential water heating service (A00), Residential overhead service (A01), Residential time of day overhead service (A02),

Residential underground service (A03), Residential time of day underground service (A04), Residential energy controlled service (A05), Residential limited off peak service (A06), Residential automatic protective lighting service (A07), Residential electric vehicle service (A08), Residential electric vehicle pilot service bundled (A80), and Residential electric vehicle pilot service pre-pay option (A81). Exhibit___(JEM-1), Schedule 12 provides the 2021 through 2025 customer and sales forecast by month at the rate schedule level of detail.

Q. HOW IS THE RATE SCHEDULE LEVEL FORECAST DERIVED FROM THE CUSTOMER CLASS LEVEL FORECAST?

A. After the class level sales and customer forecasts are completed, the rate schedule level forecasts are developed. Monthly rate schedule sales and customer allocation factors are developed based on historical rate schedule level sales and customer data. The monthly rate schedule allocation factors are averaged over several years, and the average allocation factors are then applied to the class level forecasts to derive the rate schedule level forecasts.

XIII. COMPLIANCE REQUIREMENTS

Q. PLEASE DESCRIBE THE SALES FORECAST INFORMATION PROVIDED ON OCTOBER 2, 2020.

A. The October 2, 2020 electric sales forecast pre-filing provided the data used in the test year sales forecast. The information provided is extensive, and includes all customer count, sales, weather, economic and binary data used, 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) A comparison and reconciliation of the input data, the variables used in the forecast models, and the test year forecast results to the data, models and forecast used in the Docket No. E002/GR-15-826 (2016 Test Year Rate Case), Docket No. E002/AA-20-417 (2021 Annual Fuel Forecast and Monthly Fuel Cost Charges), and Docket No. E002/RP-19-368 (Resource Plan Supplement).
4) An explanation of any exogenous adjustments made to the forecast.
5) 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.
6) All data necessary to weather normalize historical calendar-month sales.
7) A reconciliation between different sources for historical billing-month sales.

We note that in Docket No. E002/GR-15-826, the Company requested that it no longer be required to provide account information for large customers. The Department supported the Company's request. Therefore, the Company did

not include the large customers account information in its October 2, 2020 sales forecast information filing.

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 web sites, 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 web sites, 2) the manner in which IHS Markit converts nominal data to deflated data, or 3) the extrapolation of 2010 Census data to more recent years at the metropolitan level.

Q. DOES THE COMPANY CONDUCT THIS AUDIT AS PART OF ITS NORMAL FORECASTING PROCESS OR FOR ANY OTHER PURPOSE?

A. No. The Company only conducts this audit when preparing the forecast prefiling information provided with a Minnesota rate case filing. The Company believes that IHS Markit, as a matter of good business, is providing its clients with current and accurate economic and demographic data. This audit of information obtained from a well-respected source is time-consuming and in previous Minnesota rate cases filings has led to the discovery of no irregularities in the historical data accessed from IHS Markit.

Q. WHAT IS YOUR RECOMMENDATION RELATED TO THIS FORECAST PREFILING INFORMATION?

A. I recommend that the Company not be required to conduct an audit of the historical economic and demographic data accessed through IHS Markit's databases. To be clear, in future rate filings, the Company will continue to provide the historical economic and demographic data accessed from IHS Markit and work papers supporting the derivation of the economic and demographic data used to develop the customer and sales forecast. My request is limited to conducting an audit of the data accessed through HIS Markit's databases.

XIV. CONCLUSION

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. The Company's goal is to produce an accurate sales forecast to support its rate request. The Company's forecast is based on sound methodologies and provides a reasonable estimate of 2021 through 2025 MWh sales and customer counts. Therefore, the Company's forecasts for the 2021 test year and the 2022 and 2023 plan years can be relied on for the purpose of setting rates and to serve as the baseline for the Company's true-up proposal.

I have presented the Company's forecasts of sales and customers for the January 1, 2021 to December 31, 2025 time period. I also presented details of the methods used to develop the MWh sales and customer forecast and the results.

Because sales forecasts often become highly disputed issues in rate cases, and in order to minimize controversy regarding sales forecast issues in this proceeding, I recommend that the Commission adopt a test year sales true-up. Such a mechanism was used in Docket No. E002/GR-13-868 and our 2016 MYRP, and using a similar approach in this case can minimize controversy in this proceeding and ensure that test year rates are just and reasonable.

Finally, I have described the steps the Company has taken to comply with all requirements resulting from the previous rate case, as well as agreements the Company has made in the past to provide particular forecasting data. I also have provided an update regarding the forecasting issues identified by the Department in the Company's rate cases in Docket Nos. E002/GR-13-868 and E002/GR-15-826.

Q. IN YOUR OPINION, DOES THE COMPANY'S SALES AND CUSTOMER FORECAST PROVIDE A REASONABLE BASIS FOR ESTABLISHING RATES IN THE CASE?

A. Yes. The forecast data is a reasonable estimate of 2021 through 2025 sales and customer counts and supports the Company's revenue projections. I recommend the Commission adopt my forecasts of sales and customers, as reflected in Schedule 6, for the purpose of determining the revenue requirement and final rates in this proceeding.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

Resume

Jannell E. Marks
Director, Sales, Energy and Demand Forecasting
1800 Larimer Street, Denver, Colorado 80202

February 2007 – Present

Director, Sales, Energy and Demand Forecasting

Responsible for the development of forecasted sales data and economic conditions for Xcel Energy's operating companies, and the presentation of this information to Xcel Energy's senior management, other Xcel Energy departments, and externally to various regulatory and reporting agencies. Also responsible for Xcel Energy's Load Research function, which designs, maintains, monitors, and analyzes electric load research samples in the Xcel Energy operating companies' service territories. Additionally, responsible for developing and implementing forecasting, planning, and load analysis studies for regulatory proceedings. Testified on forecasting issues before the Colorado Public Utilities Commission, the Minnesota Public Utilities Commission, the North Dakota Public Service Commission, the Public Utility Commission of Texas, the South Dakota Public Utilities Commission, the New Mexico Public Regulation Commission, and the Public Service Commission of Wisconsin.

August 2000 – February 2007

Manager, Energy Forecasting, Xcel Energy

Responsible for the development and presentation of forecasted data for Xcel Energy's operating companies. Also responsible for reporting historical and statistical information to various regulatory agencies and others. Testified on forecasting issues before the Public Utility Commission of Texas, the Colorado Public Utilities Commission, and the Minnesota Public Utilities Commission.

May 1997 – August 2000

Manager, Demand, Energy and Customer Forecasts, New Century Energies, Inc.

Responsible for developing demand, energy, and customer forecasts for New Century Energies, Inc.'s operating companies. Also directed the preparation of statistical reporting for regulatory agencies and others regarding historical and forecasted reports. Testified on forecasting issues before the Public Utility Commission of Texas and the Colorado Public Utilities Commission.

1991 – 1997
Senior Research Analyst, Public Service Company of Colorado
Responsible for developing the customer and sales forecasts for Public Service Company of Colorado and the economic, customer, sales and demand forecasts for Cheyenne Light, Fuel and Power Company.

1982 – 1991
Research Analyst, Public Service Company of Colorado

Education

Colorado State University – Bachelor of Science: Statistics

Memberships

Edison Electric Institute Load Forecasting Group
Itron Energy Forecasting Group

Historical Forecast Accuracy

Five-Year Forecast Accuracy

Forecast Variance	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
March 2008 Forecast	-6.2%	-6.4%	-7.3%	-9.4%	**-11.5%**						
October 2008 Forecast	-4.1%	-4.1%	-4.7%	-6.5%	**-8.5%**						
March 2009 Forecast	-2.2%	-2.3%	-2.8%	-4.7%	-6.8%	**-7.0%**					
October 2009 Forecast		0.1%	-1.5%	-4.1%	-6.4%	**-6.7%**					
March 2010 Forecast		0.4%	-1.0%	-3.5%	-5.5%	-6.0%	**-7.0%**				
July 2010 Forecast			-1.0%	-3.3%	-5.3%	-5.9%	**-7.0%**				
March 2011 Forecast			-0.9%	-3.2%	-5.2%	-5.6%	-6.7%	**-8.1%**			
September 2011 Forecast				-1.6%	-3.4%	-3.5%	-4.4%	**-5.6%**			
March 2012 Forecast				0.0%	-1.0%	-0.5%	-1.2%	-2.5%	**-4.0%**		
July 2012 Forecast					0.2%	0.8%	0.2%	-1.0%	**-2.3%**		
March 2013 Forecast					0.3%	1.1%	0.7%	-0.4%	-1.6%	**-2.4%**	
July 2013 Forecast						1.3%	1.3%	0.8%	0.4%	**-0.1%**	
March 2014 Forecast						1.0%	0.9%	0.2%	-1.0%	-1.8%	**-4.4%**
August 2014 Forecast							-0.4%	-1.5%	-2.7%	-3.5%	**-5.8%**
March 2015 Forecast							-0.8%	-2.0%	-3.0%	-3.6%	-5.9%
July 2015 Forecast								-1.2%	-2.4%	-3.1%	-5.6%
March 2016 Forecast								-1.2%	-2.3%	-2.4%	-5.0%
July 2016 Forecast									-0.8%	-0.9%	-3.5%
March 2017 Forecast									-0.7%	-0.8%	-3.5%
July 2017 Forecast										-0.4%	-2.6%
March 2018 Forecast										1.1%	-0.1%
July 2018 Forecast										1.1%	-0.7%

5-Year Range: -11.5% to -0.1% Average: -5.7%

Three-Year Forecast Accuracy

Forecast Variance	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
March 2008 Forecast	-6.2%	-6.4%	**-7.3%**	-9.4%	-11.5%						
October 2008 Forecast	-4.1%	-4.1%	**-4.7%**	-6.5%	-8.5%						
March 2009 Forecast	-2.2%	-2.3%	-2.8%	**-4.7%**	-6.8%	-7.0%					
October 2009 Forecast		0.1%	-1.5%	**-4.1%**	-6.4%	-6.7%					
March 2010 Forecast		0.4%	-1.0%	-3.5%	**-5.5%**	-6.0%	-7.0%				
July 2010 Forecast			-1.0%	-3.3%	**-5.3%**	-5.9%	-7.0%				
March 2011 Forecast			-0.9%	-3.2%	-5.2%	**-5.6%**	-6.7%	-8.1%			
September 2011 Forecast				-1.6%	-3.4%	**-3.5%**	-4.4%	-5.6%			
March 2012 Forecast				0.0%	-1.0%	-0.5%	**-1.2%**	-2.5%	-4.0%		
July 2012 Forecast					0.2%	0.8%	**0.2%**	-1.0%	-2.3%		
March 2013 Forecast					0.3%	1.1%	0.7%	**-0.4%**	-1.6%	-2.4%	
July 2013 Forecast						1.3%	1.3%	**0.8%**	0.4%	-0.1%	
March 2014 Forecast						1.0%	0.9%	0.2%	**-1.0%**	-1.8%	-4.4%
August 2014 Forecast							-0.4%	-1.5%	**-2.7%**	-3.5%	-5.8%
March 2015 Forecast							-0.8%	-2.0%	-3.0%	**-3.6%**	-5.9%
July 2015 Forecast								-1.2%	-2.4%	**-3.1%**	-5.6%
March 2016 Forecast								-1.2%	-2.3%	-2.4%	**-5.0%**
July 2016 Forecast									-0.8%	-0.9%	**-3.5%**
March 2017 Forecast									-0.7%	-0.8%	-3.5%
July 2017 Forecast										-0.4%	-2.6%
March 2018 Forecast										1.1%	-0.1%
July 2018 Forecast										1.1%	-0.7%

3-Year **Range: -7.3% to +0.8%** **Average: -3.3%**

One-Year Forecast Accuracy

Forecast Variance	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
March 2008 Forecast	**-6.2%**	-6.4%	-7.3%	-9.4%	-11.5%						
October 2008 Forecast	**-4.1%**	-4.1%	-4.7%	-6.5%	-8.5%						
March 2009 Forecast	-2.2%	**-2.3%**	-2.8%	-4.7%	-6.8%	-7.0%					
October 2009 Forecast		**0.1%**	-1.5%	-4.1%	-6.4%	-6.7%					
March 2010 Forecast		0.4%	**-1.0%**	-3.5%	-5.5%	-6.0%	-7.0%				
July 2010 Forecast			**-1.0%**	-3.3%	-5.3%	-5.9%	-7.0%				
March 2011 Forecast			-0.9%	**-3.2%**	-5.2%	-5.6%	-6.7%	-8.1%			
September 2011 Forecast				**-1.6%**	-3.4%	-3.5%	-4.4%	-5.6%			
March 2012 Forecast				0.0%	**-1.0%**	-0.5%	-1.2%	-2.5%	-4.0%		
July 2012 Forecast					**0.2%**	0.8%	0.2%	-1.0%	-2.3%		
March 2013 Forecast					0.3%	**1.1%**	0.7%	-0.4%	-1.6%	-2.4%	
July 2013 Forecast						**1.3%**	1.3%	0.8%	0.4%	-0.1%	
March 2014 Forecast						1.0%	**0.9%**	0.2%	-1.0%	-1.8%	-4.4%
August 2014 Forecast							**-0.4%**	-1.5%	-2.7%	-3.5%	-5.8%
March 2015 Forecast							-0.8%	**-2.0%**	-3.0%	-3.6%	-5.9%
July 2015 Forecast								**-1.2%**	-2.4%	-3.1%	-5.6%
March 2016 Forecast								-1.2%	**-2.3%**	-2.4%	-5.0%
July 2016 Forecast									**-0.8%**	-0.9%	-3.5%
March 2017 Forecast									-0.7%	**-0.8%**	-3.5%
July 2017 Forecast										**-0.4%**	-2.6%
March 2018 Forecast										1.1%	**-0.1%**
July 2018 Forecast										1.1%	**-0.7%**

1-Year **Range: -6.2% to +1.3%** **Average: -1.1%**

Definitions of Terms

12-961 Order – Commission's September 3, 2013 Order issued in the Company's electric rate case in Docket No. E002/GR-12-961.

Base Load – Component of sales not associated with weather.

Billing-Cycle Days – Based on the meter reading schedule for the 21 billing cycles. For example, there are approximately 651 (21 cycles * 31 days) billing cycle 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.

CHP – Combined Heat and Power.

Commission – Minnesota Public Utilities Commission.

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

CRS – Customer Resource System; Xcel Energy's billing system since February 2005.

CSS – Xcel Energy's billing system prior to February 2005.

DSM – Demand Side Management.

Department – Minnesota Department of Commerce, Division of Energy Resources.

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.

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

Definitions of Terms (continued)

kW – Kilowatt; measure of electricity demand.

KWh – Kilowatt-hour; measure of electricity sales.

MWh – Megawatt-hour; measure of electricity sales; one MWh = 1,000 KWh.

NCE – New Centuries Energy Inc.

NGEA – Next Generation Energy Act

NOAA – National Oceanic and Atmospheric Administration.

NSP – Northern States Power Company.

Regression – Linear Regression employing multiple independent variables to model the variation of the dependent variable about its mean value.

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.

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.

THI – Temperature-humidity index.

Total Weather Load – Component of sales influenced by weather.

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

XEI – Xcel Energy Inc.

XES – Xcel Energy Services Inc.

Itron

Knowledge to Shape Your Future

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2019 Forecasting Benchmark Survey

Itron, Inc.
12348 High Bluff Drive, Suite 210
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October 29, 2019

2019 Forecasting Benchmark Survey

Itron's annual benchmarking survey gathers electric and gas utility information about system growth, forecast accuracy, and forecasting characteristics across North America. The survey has been conducted since 2012 and presents a broad picture of the electric and gas industry forecasting practices. This report summarizes the 2019 survey results.

Survey results are presented by geographic region and are weighted by sales unless otherwise noted. The geographic regions are shown in Figure 1. Weights are calculated based on the self-reported 2018 annual energy or natural gas consumption. The number of respondents and the overall weights for the current survey are shown in Figure 2. For comparative purposes, the number of responses from the prior surveys are included. The actual weights for each survey question response vary slightly from the overall weights because some utilities do not respond to all questions.

Figure 1: Survey Regions

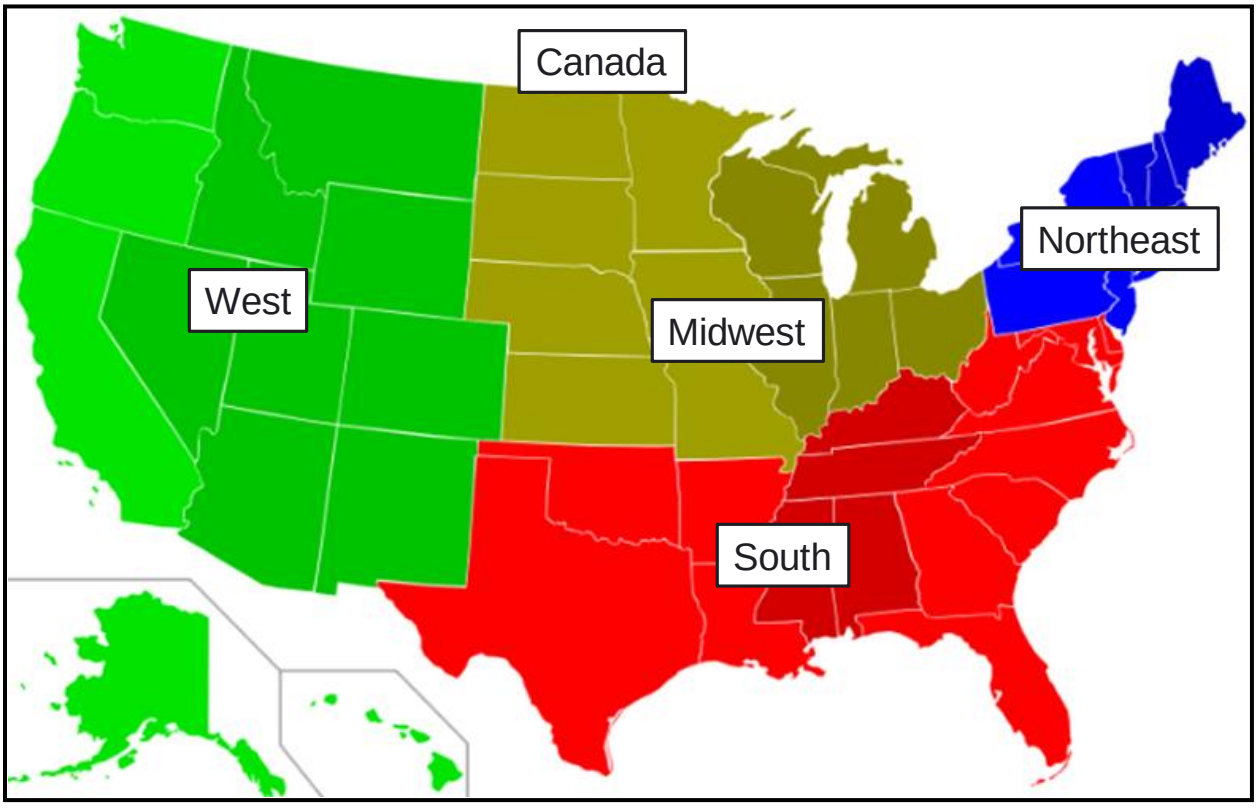


Figure 2: Survey Respondents

Region	2012	2013	2014 Outlook	2014 Accuracy	2015	2016	2017	2018	2019	2019 Weights
Canada	9	9	8	6	8	6	8	6	6	21%
Midwest	18	23	17	19	22	16	19	25	17	19%
Northeast	10	7	10	10	9	8	10	9	5	6%
South	25	25	12	15	20	22	27	26	20	43%
West	15	10	20	16	12	10	7	8	9	12%
Electric Total	77	74	67	66	71	62	71	74	57	100%
Other Electric			4	5	4	2	2	4	4	100%
Natural Gas Total			10	15	9	8	13	16	12	100%

The 2019 Survey includes responses from 73 companies. The electric utility responses are divided into regions and represent almost 2.1 billion kWh of annual energy sales. The Other Electric category includes Independent System Operators and electric retailers who forecast over a wide geographic region. Natural Gas respondents are aggregated into a single category due to the small number of respondents.

Summary of Results

The 2019 Survey examines utility forecast accuracy, growth projections and forecast characteristics. Each of the following sections summarizes the key results.

Forecast Accuracy Overview

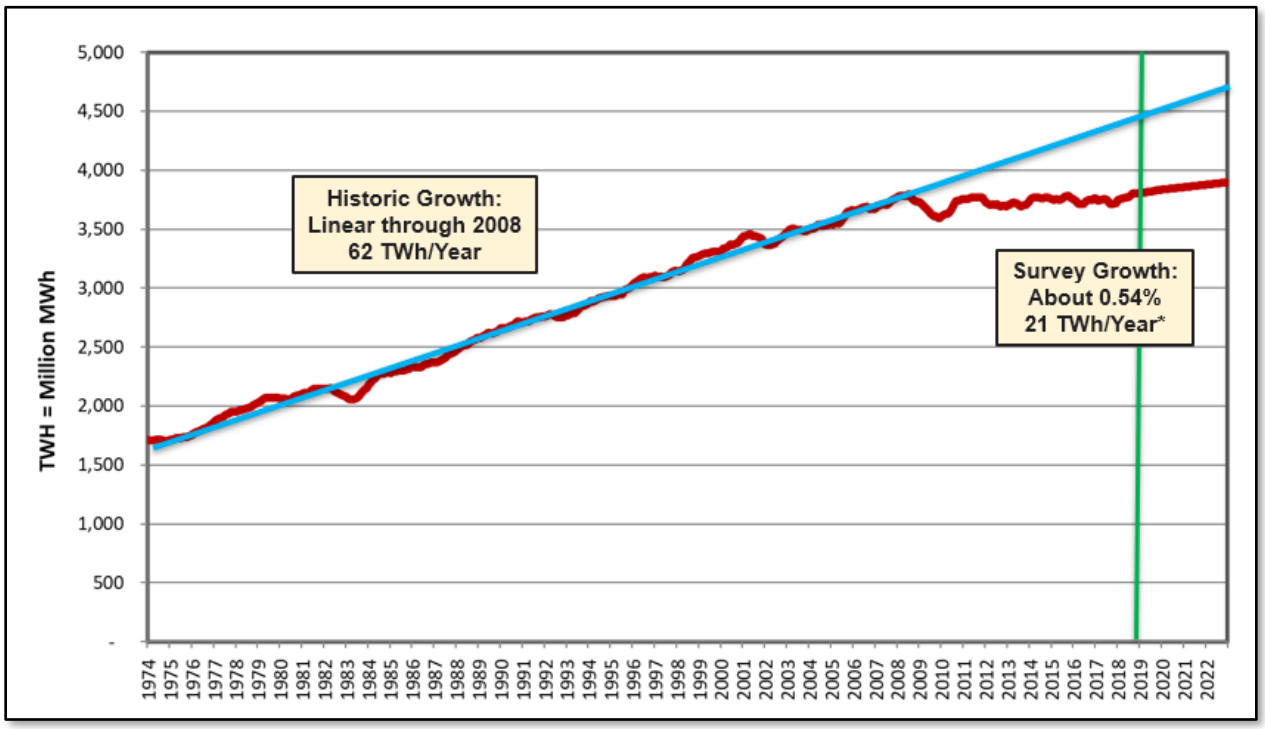
Itron asks respondents about their 2018 forecast accuracy compared with weather normal 2018 sales. The average electric forecast accuracy is consistent with prior years and ranges between 1.2% and 2.2%. The 2018 natural gas class accuracy is also consistent with prior years and ranges between 3.3% and 5.6% except for the industrial class where large anomalies distort the class average. Accuracy measures are reported as unweighted mean absolute percent errors (MAPEs). Detailed results are as shown later in this report in Figure 16 and Figure 27.

Electric Forecast Growth Overview

When averaged across electric utility respondents, electric system sales are forecast to grow 0.54% per year over the next ten years. The ten-year forecasted annual growth rate for retail sales (i.e., residential, commercial and industrial classes) is the same. The difference between systems sales and retail sales is that system sales include additional classes such as wholesale and street lighting. The long-term sales growth outlook is consistent with the 2018 survey results and continues to show a sharp contrast to historic growth in the United States from 1974 through 2008.

Figure 3 shows historical sales from 1974 through 2018 as 12-month rolling sums. The red line shows historic sales through 2018 with forecast sales based on the survey's retail projections through 2022. The blue lines show the long-term growth trend through 2008 and extrapolated from 2009 through the forecast period.

Figure 3: Survey Electric Sales Growth



Beginning with the "Great Recession" in 2008, sales deviate from the long-term trend line. Since 2008, sales are flat despite the economic recovery. Accounting for the absence of growth, utilities are cautiously optimistic that sales will grow over the next decade. Figure 4 shows historic annual growth rates over various time periods from 1974 through 2018 for the major electric classes.

Figure 4: U.S. Historical Electric Sales Growth Rate (%)

Time Frame	Residential	Commercial	Industrial	Total
1974-2014	2.23%	2.77%	0.94%	1.96%
1980-1990	2.81%	3.93%	1.36%	2.56%
1990-2000	2.49%	3.23%	1.46%	2.37%
2000-2008	2.22%	2.29%	-0.27%	1.49%
2009-2018	0.32%	0.21%	-0.57%	0.03%

Since 2009, the total average sales are close to zero (0.03%) which is consistent with the survey results.

Natural Gas Forecast Growth Overview

Gas respondents expect natural gas sales to decline by 0.48% per year over the next ten years. Detailed growth rates are shown in this report in Figure 14. Historically, gas sales have shown long cycles of growth and decline with smaller year-to-year fluctuations based on weather. Despite gas sales being at a 40-year high, survey respondents are forecasting slight declines in all classes.

Figure 5 shows a 12-month rolling sum of monthly retail gas sales. The forecast is based on reported forecast growth rates beginning in 2019. Figure 6 shows average annual growth rates for selected periods of time.

Figure 5: U.S. Historical Natural Gas Sales

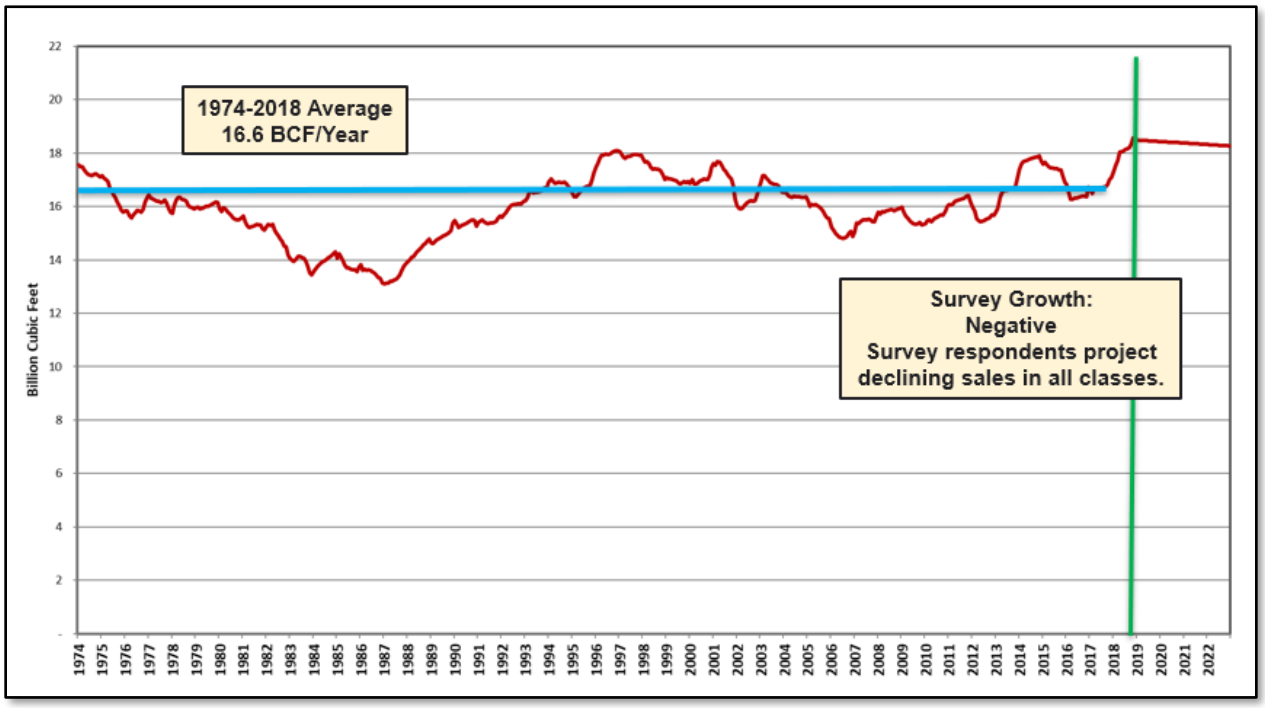


Figure 6: U.S. Historical Natural Gas Sales Growth Rate (%)

Time Frame	Residential	Commercial	Industrial	Total
1974-2014	0.30%	0.80%	-0.20%	0.09%
1980-1990	-0.50%	0.23%	-0.99%	-0.58%
1990-2000	0.29%	1.50%	1.94%	1.32%
2000-2008	0.51%	0.25%	-1.57%	-0.64%
2009-2018	0.53%	1.21%	2.15%	2.22%

Customers Growth

Historic and forecast customer growth rates for the residential and commercial classes are shown in Figure 7 and Figure 8. For comparative purposes, growth rates from the 2012 through 2018 surveys are displayed with the 2019 survey results.

Reported 2018 electric customer growth is 1.13% for the residential class and 0.93% for the commercial class. Natural gas customer growth is 0.93% for the residential class and 0.46% for the commercial class.

Since 2011, electric residential customer growth has steadily increased from 0.47% (2011) to 1.13% (2018) with the strongest growth in the South and West regions. 2019 Forecast growth rates are consistent with regional history and are close to the 5-year (2014-2018) annual average growth rates. For example, the total forecast growth in 2019 is 1.11% and the 5-year average growth rate is 1.01%. The ten-year forecast (2019-2029) growth rate is 0.97% and consistent with the EIA's 2019 Annual Energy Outlook's single-family household forecast growth rate of 0.8%.

Figure 7: Residential Average Customer Growth (%)

Region	Actual 2011	Actual 2012	Actual 2013	Actual 2014	Actual 2015	Actual 2016	Actual 2017	Actual 2018	Forecast 2019	Forecast 2019-2029
Canada	0.81	1.11	1.35	0.16	0.81	1.21	1.04	0.94	1.00	0.84
Midwest	0.08	0.13	0.34	0.48	0.55	0.82	0.77	0.61	0.65	0.53
Northeast	0.03	1.18	(0.20)	0.32	0.27	0.40	0.57	0.72	0.29	0.32
South	0.62	0.81	1.05	1.24	1.30	1.21	1.35	1.43	1.51	1.26
West	0.60	0.88	1.03	1.17	1.05	1.43	1.49	1.32	0.93	1.03
Total	0.47	0.66	0.72	0.80	0.87	1.09	1.15	1.13	1.11	0.97
Natural Gas			1.08	1.14	0.96	1.16	1.21	0.93	1.00	0.71

Since 2011, Commercial customer growth rates vary between 0.5% and 1.0% with a 5-year (2014-2018) average of 0.85%. The 2018 growth is consistent with the 5-year average growth. The long-term forecasted growth (0.81%) is slightly lower than the 5-year average growth. For Commercial customers, the growth is consistent with the residential class with the strongest growth in the South and West regions.

Figure 8: Commercial Average Customer Growth (%)

Region	Actual 2011	Actual 2012	Actual 2013	Actual 2014	Actual 2015	Actual 2016	Actual 2017	Actual 2018	Forecast 2019	Forecast 2019-2029
Canada	0.44	0.74	1.70	0.31	0.68	0.94	0.25	0.45	0.25	0.53
Midwest	0.26	0.42	0.72	0.68	0.83	1.08	0.71	0.66	0.64	0.49
Northeast	0.10	0.40	0.39	0.33	0.51	1.10	0.53	0.50	0.23	0.33
South	0.75	1.04	0.97	1.10	1.19	0.91	1.17	1.24	1.31	1.05
West	0.62	0.65	0.88	(0.30)	1.02	1.27	0.16	0.91	0.43	0.86
Total	0.51	0.69	0.88	0.67	0.89	0.99	0.75	0.93	0.86	0.81
Natural Gas			0.65	1.17	0.64	0.81	0.62	0.46	0.42	0.21

The 2018 Natural Gas customer growth is like the 2017 growth and slightly lower than the 5-year (2014-2018) average of 1.08% for the residential class and 0.74% for the commercial class.

Residential Sales Growth

Figure 9 shows past and current reported weather-normal residential sales growth rates. The figure also shows the 2019 forecast growth rate and the ten-year forecast growth rate.

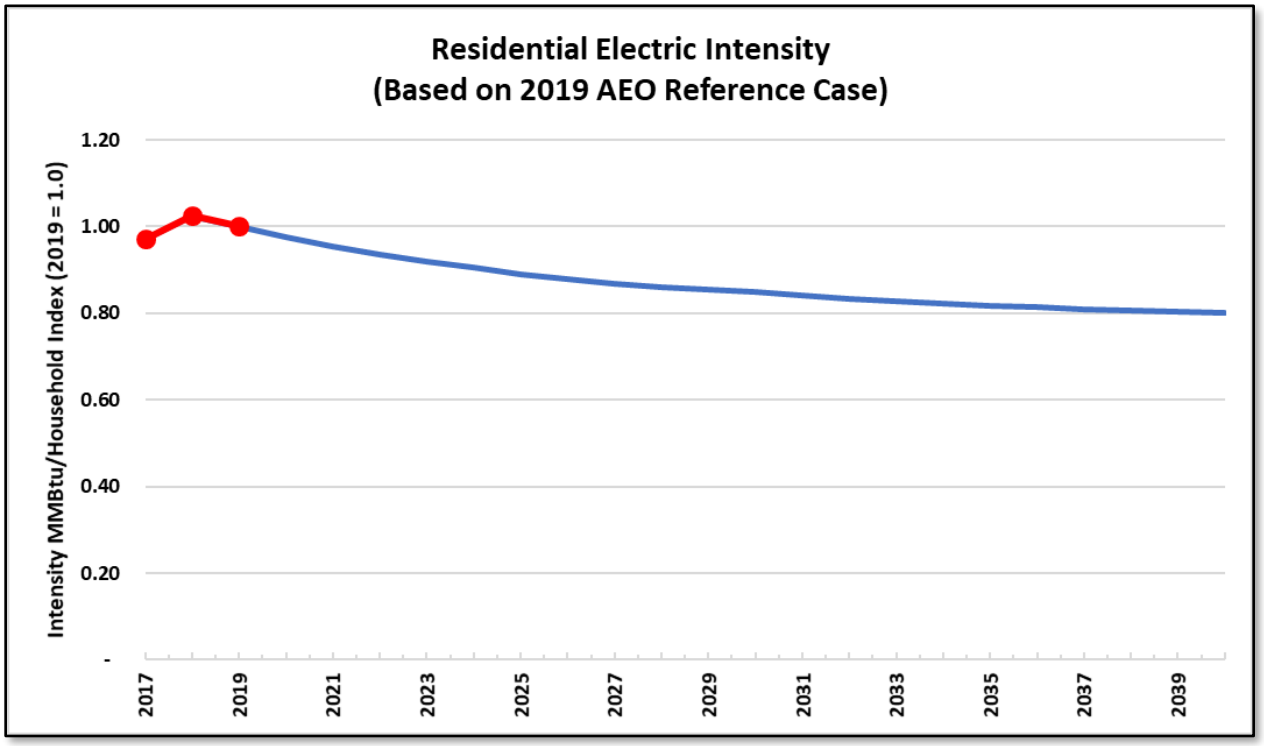
Figure 9: Residential Sales Growth

Region	Actual 2011	Actual 2012	Actual 2013	Actual 2014	Actual 2015	Actual 2016	Actual 2017	Actual 2018	Forecast 2019	Forecast 2019-2029
Canada	(0.08)	0.35	2.22	0.85	(0.97)	1.12	0.79	1.37	0.83	0.57
Midwest	(0.04)	(0.93)	0.19	0.09	(1.24)	(0.15)	(0.45)	0.09	0.27	0.35
Northeast	1.15	0.44	0.85	(0.42)	(1.25)	0.09	0.27	1.27	(0.97)	(0.55)
South	0.78	1.26	0.13	1.17	1.27	0.12	0.07	1.85	1.29	1.07
West	0.38	0.34	(0.35)	0.24	(1.11)	1.29	0.80	0.18	(0.83)	0.56
Electric Total	0.41	0.25	0.35	0.66	(0.38)	0.33	0.16	1.19	0.61	0.70
Natural Gas Total			3.13	0.63	(0.72)	0.91	1.53	(1.88)	(0.64)	(0.64)

Electric. On a total basis, electric utilities report 1.19% weather normalized residential sales growth for 2018. Until this year (2018), sales growth has ranged between -0.38% and 0.66%. The sudden increase in growth is driven by the Northeast and South regions. Itron weather normalized residential sales for 2018 is 0.23% and is consistent with the survey's historic five-year average (2014-2018) of 0.39%. The difference between the survey results and Itron's weather normalized growth suggests that the survey results may be driven by a few large utilities with large growth rates.

The survey's 2018 sales growth coupled with a lower residential customer growth shows an increase in average use. This is the first increase in average use since Itron began surveying customers in 2011. The 2018 increase is contrary to the historic average use decline forecast by the survey respondents and the Energy Information Administration (EIA). Figure 10 shows the EIA's long-term forecast based on the 2019 Annual Energy Outlook reference case. Surveyed utilities project long-term (2019-2029) average use to decline 0.22% per year compared with the EIA's projected intensity decline of 1.6%.

Figure 10: AEO Residential Electric Use Intensity Index



Natural Gas. Surveyed gas utilities saw average weather normal gas demand decrease 1.88% in 2018 and project long-term annual demand growth to decline by 0.64% per year over the next ten years. Overall, natural gas average use continues to show a decline historically and in the survey respondents forecasts.

Commercial Sales Growth

Figure 11 shows historical weather-normal and forecasted commercial sales growth rates.

Figure 11: Commercial Sales Growth

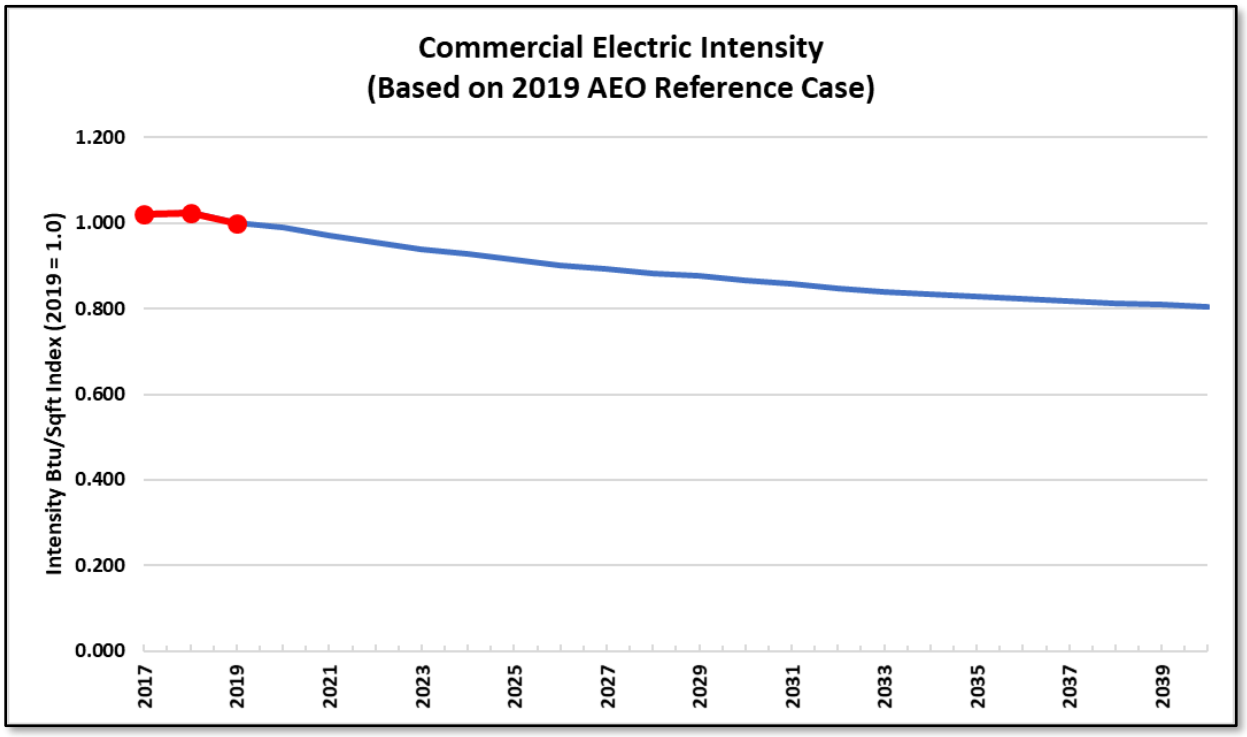
Region	Actual 2011	Actual 2012	Actual 2013	Actual 2014	Actual 2015	Actual 2016	Actual 2017	Actual 2018	Forecast 2019	Forecast 2019-2029
Canada	0.82	0.07	0.75	0.74	0.51	1.14	0.51	1.86	1.59	1.01
Midwest	0.02	(0.02)	0.64	0.45	(0.48)	0.03	0.13	0.06	0.61	(0.02)
Northeast	(0.52)	(0.57)	0.12	0.77	(0.58)	(0.47)	(0.47)	(0.07)	0.51	(0.71)
South	0.32	0.65	0.60	1.05	1.07	0.24	0.24	1.88	1.02	1.03
West	(0.07)	0.40	0.43	0.74	0.43	0.24	0.24	0.55	(0.66)	0.08
Electric Total	0.15	0.24	0.51	0.80	0.28	0.32	0.32	1.25	0.76	0.59
Natural Gas Total			4.38	2.25	(0.58)	0.69	3.99	(1.04)	(0.66)	(1.02)

Electric. Respondents reported weather normal sales growth of 1.25% in 2018 and project a 0.76% growth rate in 2019. The ten-year average forecast growth is 0.59%. Like the residential class, the 2018 commercial sales growth is high relative to the five-year (2014-2018) average of 0.60% and higher than

any reported growth rates since Itron's began surveying customers in 2011. The high growth is driven by the South and Canada regions and caused by a few large utilities reporting large growth rates. Despite the high 2018 growth rate, the long-term forecast (2019-2029) growth of 0.59% is consistent with prior year survey results and the long-term average.

Like the residential class, high 2018 sales growth relative to customer growth results in 0.32% growth in average use. The positive average use growth reverses the long-term trend of declining average use. However, survey participants continue to forecast declining average use (customer growth larger than sales growth) consistent with the EIA's 2019 AEO forecast (Figure 12).

Figure 12: AEO Commercial Electric Use Intensity (kWh/Square Foot)



Natural Gas. Utilities reported 1.04% decline in 2018 weather-normal gas sales. The short and long-term forecasts of commercial sales is consistent with the 2018 decline showing declines of 0.66% in 2019 and 1.02% from 2019-2029.

Industrial Sales Growth

Responses to historic and forecast industrial growth are shown in Figure 13. This figure combines reported growth rates from the prior surveys with reported and forecasted growth rates from the 2019 Survey.

Figure 13: Industrial Sales Growth

Region	Actual 2011	Actual 2012	Actual 2013	Actual 2014	Actual 2015	Actual 2016	Actual 2017	Actual 2018	Forecast 2019	Forecast 2019-2029
Canada	(0.26)	(0.67)	1.80	(1.00)	(1.57)	(1.41)	(1.06)	(1.59)	6.89	0.11
Midwest	2.06	(0.37)	(0.09)	1.97	(0.71)	0.41	0.20	1.29	(0.32)	0.25
Northeast	0.51	(1.32)	1.56	0.19	(3.44)	(1.74)	1.33	(1.15)	0.96	(0.43)
South	2.48	2.22	1.53	2.66	1.75	0.36	1.26	1.95	0.97	0.60
West	0.68	2.70	(1.03)	0.08	(1.47)	(1.89)	(1.97)	0.11	(0.94)	(1.44)
Electric Total	1.78	0.73	0.32	1.30	(0.33)	(0.23)	0.33	0.76	1.21	0.13
Natural Gas Total			4.47	(0.43)	(0.13)	4.61	2.33	(0.33)	(2.26)	(1.26)

Electric Growth. The 2018 sales growth is 0.76%. Across the regions, the Midwest and South show strong growth while Canada and Northeast regions show declines. Overall growth appears to be trending upward at a slow pace with long-term (2019-2029) growth slightly positive.

Natural Gas. 2018 sales show a 0.33% decline following two years of strong growth. The downward trend is expected to continue with a 2.26% decline in 2019 and a long-term decline of 1.26% per year.

System Sales Growth

System energy and peak demand growth are shown in Figure 14 and Figure 15. These figures combine reported growth rates from prior surveys with reported and forecasted growth rates from the 2019 survey. System sales include all utility classes and may include wholesale, resale, and agricultural classes.

Figure 14: System Energy Growth

Region	Actual 2011	Actual 2012	Actual 2013	Actual 2014	Actual 2015	Actual 2016	Actual 2017	Actual 2018	Forecast 2019	Forecast 2019-2029
Canada		0.44	0.71	0.09	(1.41)	(0.02)	0.21	0.26	0.81	0.43
Midwest		(0.68)	(0.01)	0.54	(0.34)	0.35	(0.14)	0.14	0.22	0.12
Northeast		(0.36)	(0.34)	0.32	(1.59)	(0.41)	0.36	0.21	(0.03)	0.60
South		1.05	0.89	1.60	1.54	0.35	0.42	2.56	0.67	1.01
West		0.40	(0.40)	0.71	(1.18)	0.07	0.34	0.15	(0.83)	0.15
Electric Total		0.22	0.33	0.87	(0.12)	0.21	0.26	1.24	0.39	0.54
Natural Gas Total			2.97	1.13	1.50	1.48	1.54	(0.56)	(1.85)	(0.48)

Figure 15: System Peak Demand Growth

Region	Actual 2011	Actual 2012	Actual 2013	Actual 2014	Actual 2015	Actual 2016	Actual 2017	Actual 2018	Forecast 2019	Forecast 2019-2029
Canada	0.76	0.99	-	(0.53)	(0.87)	0.45	0.05	0.70	(0.13)	0.78
Midwest	(0.25)	(0.90)	(1.55)	(0.88)	0.25	0.52	(1.83)	0.58	(0.66)	0.08
Northeast	(0.35)	1.76	(0.71)	(1.28)	0.90	(1.63)	0.27	5.26	7.46	0.60
South	0.08	(1.00)	(1.09)	2.22	3.24	1.22	0.66	2.51	1.84	1.03
West	2.28	(0.47)	3.95	(1.02)	0.89	0.90	2.09	0.94	(1.37)	(0.08)
Electric Total	0.43	(0.35)	(0.45)	0.18	0.70	0.65	(0.28)	1.71	0.75	0.64
Summer Peak								1.93	0.64	0.50
Winter Peak								1.12	1.13	1.01

Electric Growth. 2018 weather-normal system energy requirement grows at 1.24%, higher than the five-year (2014-2018) historic average of 0.49%. Growth is driven by the South region where a few large utilities reported high growth rates. Looking forward, near and long-term growth is projected to be slightly above to the five-year average.

Unlike previous surveys, the 2019 survey asked companies whether their peak growth was for a summer or winter peak. Figure 15 shows the total peak growth (both summer and winter) which may be compared to prior survey responses. Additionally, isolated summer and winter peak growth rates are reported for the first time. Of survey respondents, approximately, 75% are summer peaking utilities.

Natural Gas. 2018 natural gas system declines 0.56% consistent with the residential, commercial, and industrial sectors. The near and long-term forecasts extend the downward trend.

Forecast Accuracy

The survey asks respondents about their 2018 forecast accuracy. Companies were asked for three error calculations. First, companies were asked to compare their 2018 forecast (generated in 2017) against weather-normal 2018 sales. Second, companies were asked to compare the same forecast and against actual 2018 sales. These calculations report errors on an annual basis. For the third calculation, companies were asked to compare the same forecast and report the errors on a monthly average basis.

Annual Forecast Accuracy. The average forecast errors calculated as the Mean Absolute Percent Error (MAPE) are shown in Figure 16. This figure also compares MAPEs from prior surveys. All MAPE values are unweighted.

Figure 16: Annual Electric Error Results (Unweighted)

	Against Weather Normalized Actual Values								Against Actual Values				
Class	2012 Survey	2013 Survey	2014 Survey	2015 Survey	2016 Survey	2017 Survey	2018 Survey	2019 Survey	2015 Survey	2016 Survey	2017 Survey	2018 Survey	2019 Survey
Residential	1.74	1.45	1.70	1.47	1.88	1.73	1.35	1.79	2.26	1.77	2.66	2.70	4.12
Commerical	1.71	1.95	2.08	1.30	1.56	1.82	1.26	2.00	1.50	1.54	1.66	1.49	2.15
Industrial	3.19	3.19	4.44	3.44	3.00	3.26	2.27	1.92	3.47	3.32	3.26	2.31	1.95
System	NA	1.59	1.46	1.33	1.86	1.58	1.05	1.25	1.55	1.60	1.55	1.52	2.20
Peak	1.85	2.73	3.09	2.36	2.66	2.81	3.04	2.13	5.05	3.85	2.91	4.09	3.56

For all classes, reported average MAPEs are similar to prior survey results indicating stability and consistency in modelling approaches through time.

The distributions of the sales forecast errors are shown in Figure 17 through Figure 20. The forecast error distributions are measured against normalized sales (left chart) and actual sales (right chart). When the error is below zero the forecast is higher than actual sales. When the forecast error is above zero the forecast is lower than actual sales. The figures show the error distribution against normalized actuals are evenly balanced indicating no significant bias. When compared against actual values, the highly weather sensitive classes (e.g. residential and commercial) show a strong bias for actual to be above forecast. This comparison is consistent with the colder than normal winter and hotter than normal summer.

Figure 17: Residential Electric Error Distributions

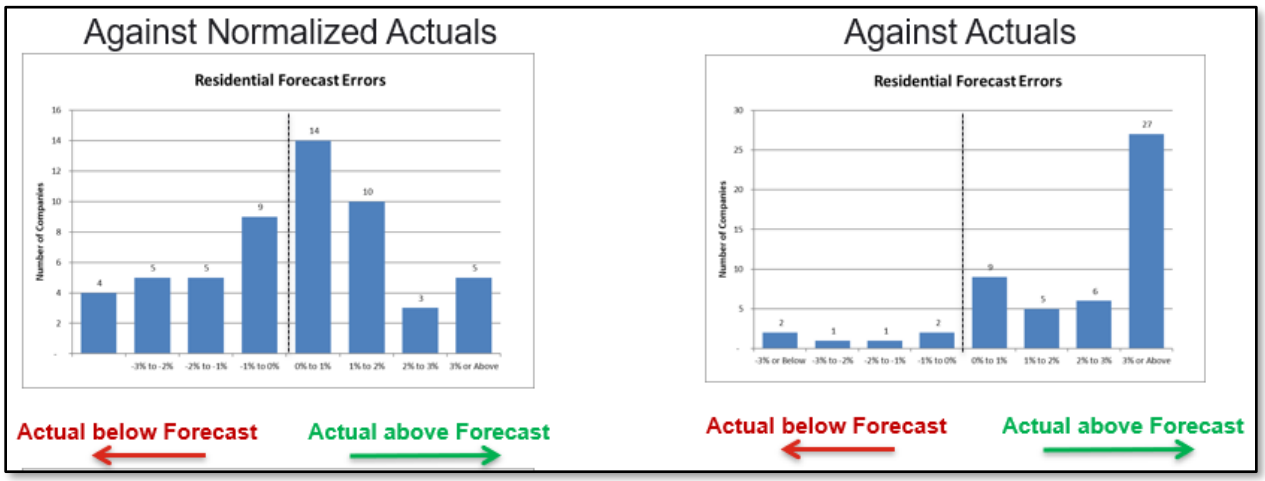


Figure 18: Commercial Electric Error Distributions

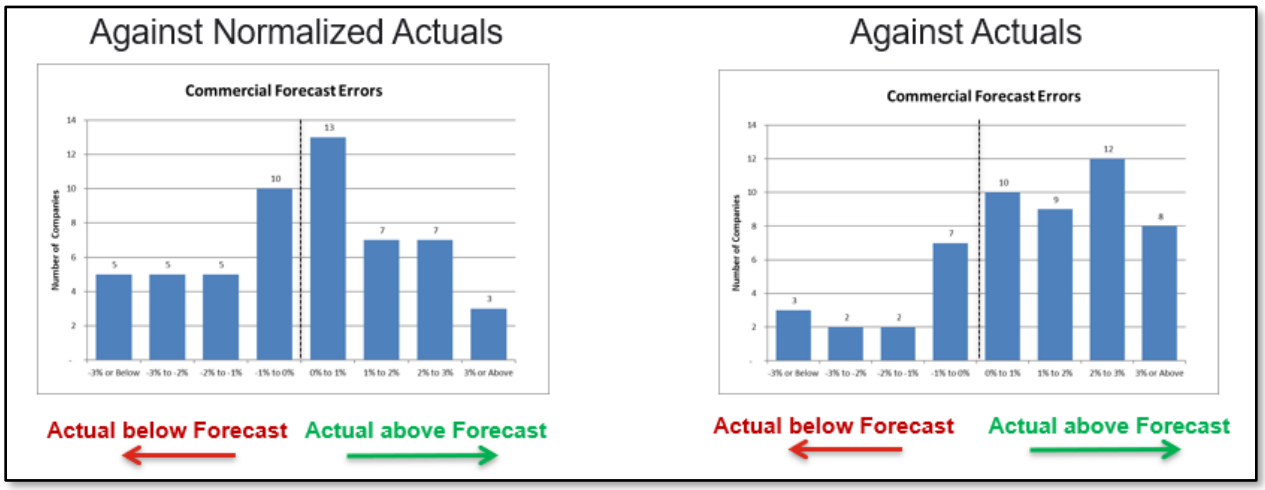


Figure 19: Industrial Electric Error Distributions

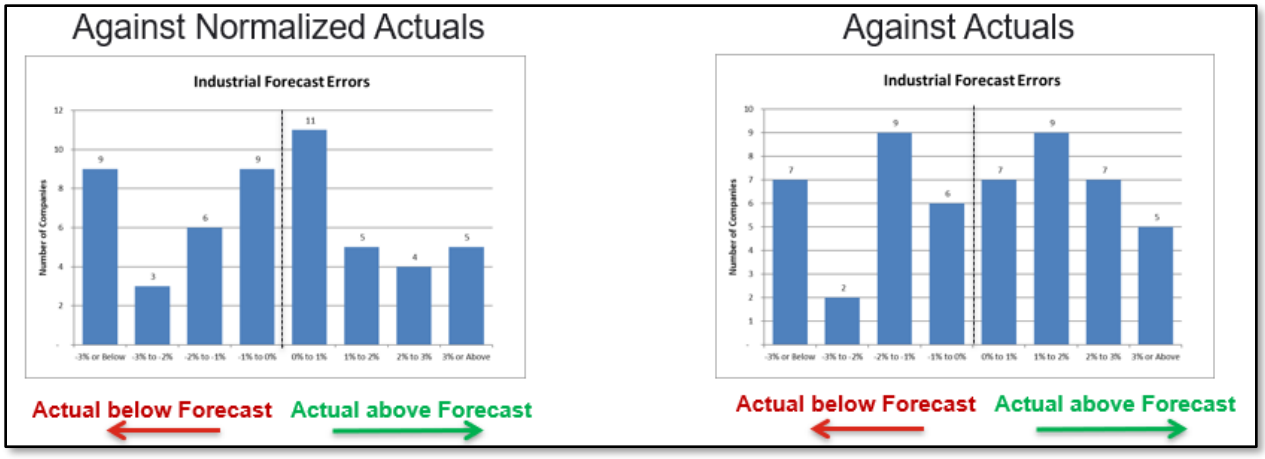
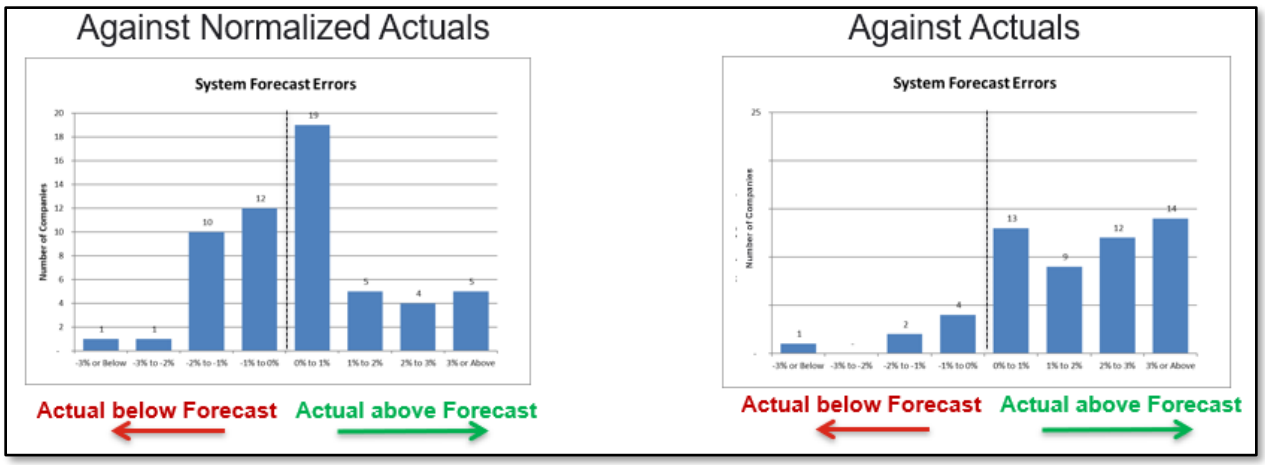


Figure 20: Electric System Error Distributions



The distribution of peak forecast errors is shown in Figure 21 and Figure 22. In these figures the summer peak and winter peaks are separated. Like the sales distributions, when compared against normalized actuals, the error distribution tends to center around zero. However, when peaks are compared against actual weather, no clear bias appears.

Figure 21: Summer Peak Error Distributions

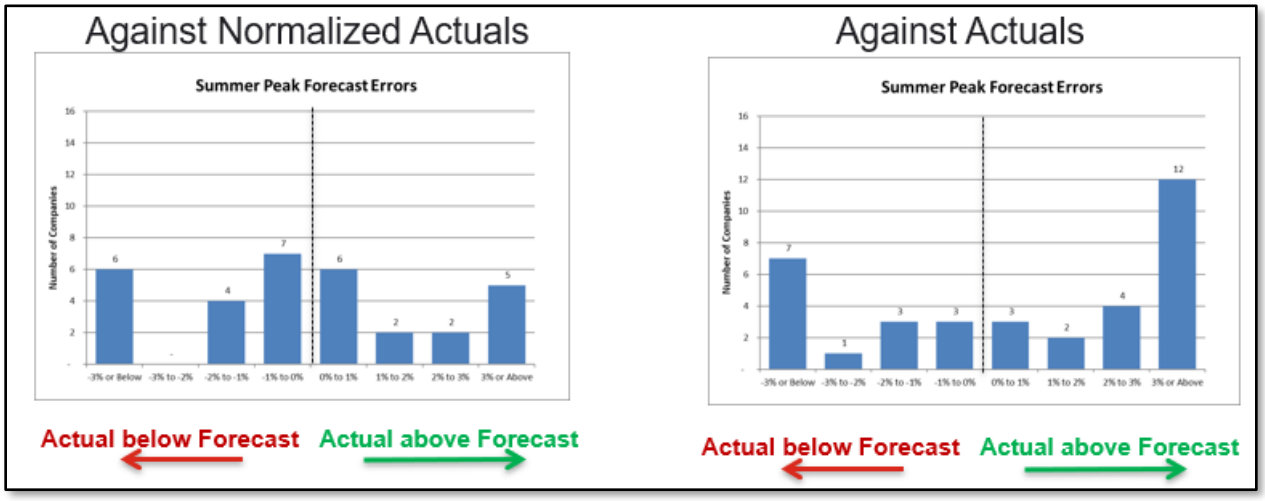
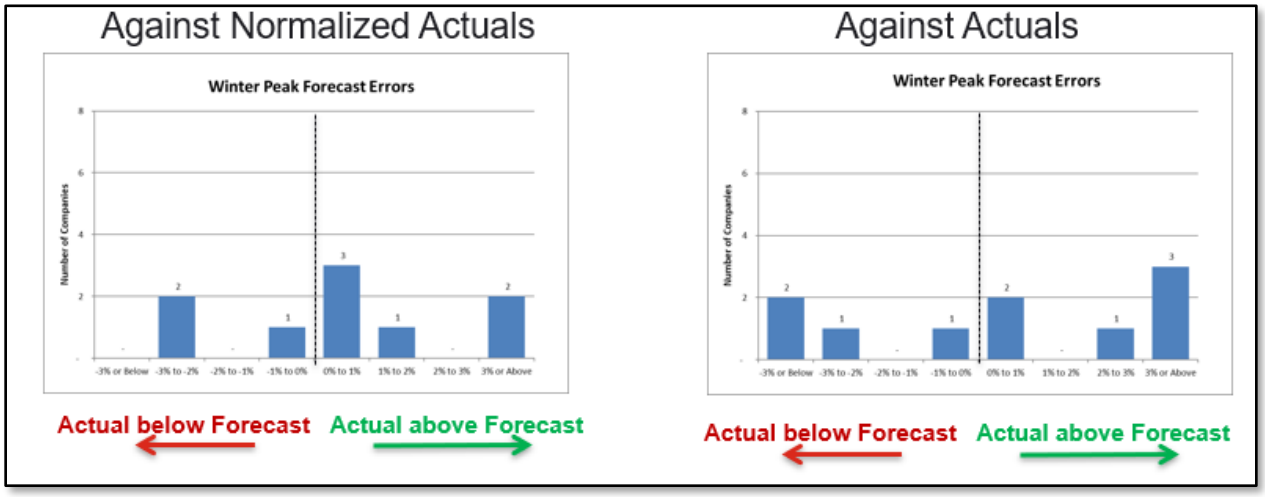


Figure 22: Winter Peak Error Distributions



Monthly Forecast Accuracy. While Figure 16 through Figure 22 present annual forecast errors, Figure 23

Figure 24 through Figure 26 present monthly average forecast errors. Monthly average errors are calculated against weather normalized actuals and average the 12 monthly errors in 2018. These errors are comparable to monthly model estimation errors for 2018. Figure 23 shows the monthly average errors by class with comparative values from the 2018 survey. As expected, the reported errors are higher than the annual error reported in Figure 16 because errors in one month are not offset by errors in another month.

Figure 23: Monthly Average Electric Error Results (Unweighted)

Class	2018 Survey	2019 Survey
Residential	3.76	4.26
Commerical	3.03	3.45
Industrial	3.87	3.86

The distribution of monthly errors in
Figure 24 through Figure 26 show the range of responses. In the residential class 55% of respondents show errors less than 4%. In the commercial class, 55% of respondents show errors less than 3%. In the industrial class 56% of respondents show less than 4%.

Figure 24: Residential Monthly Errors

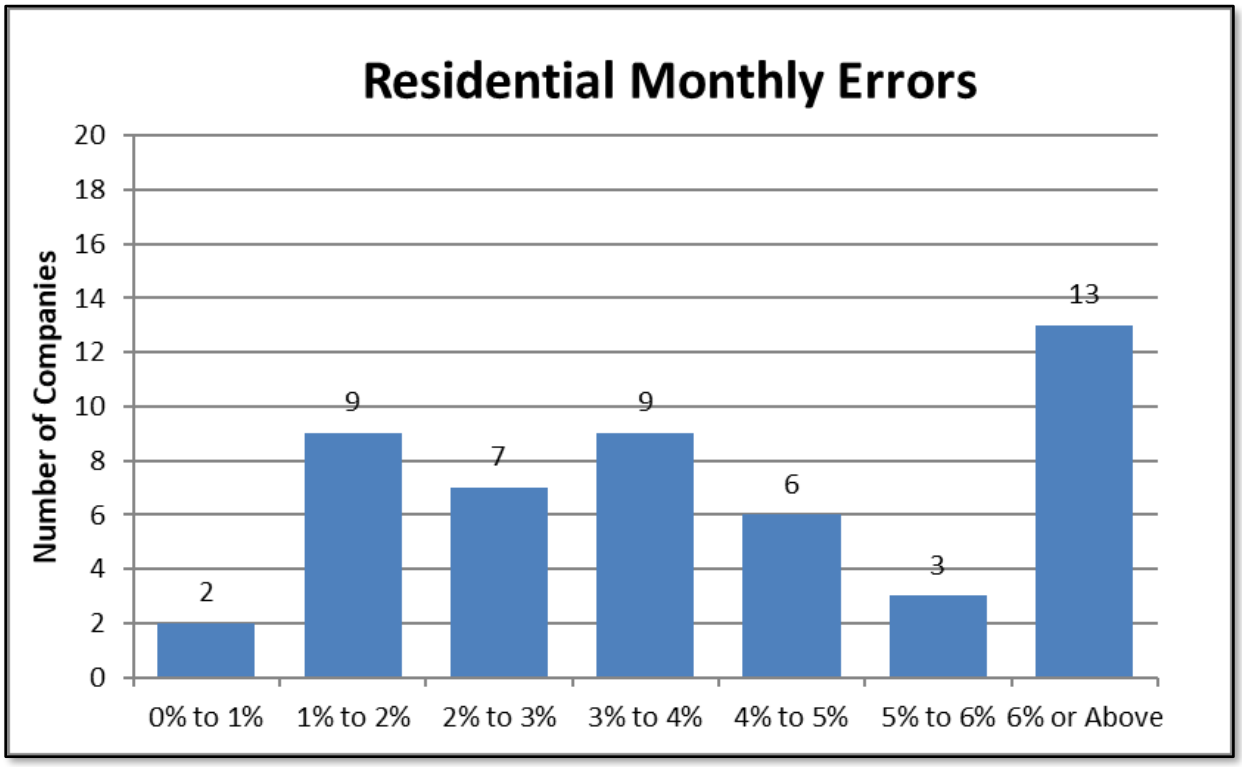


Figure 25: Commercial Monthly Errors

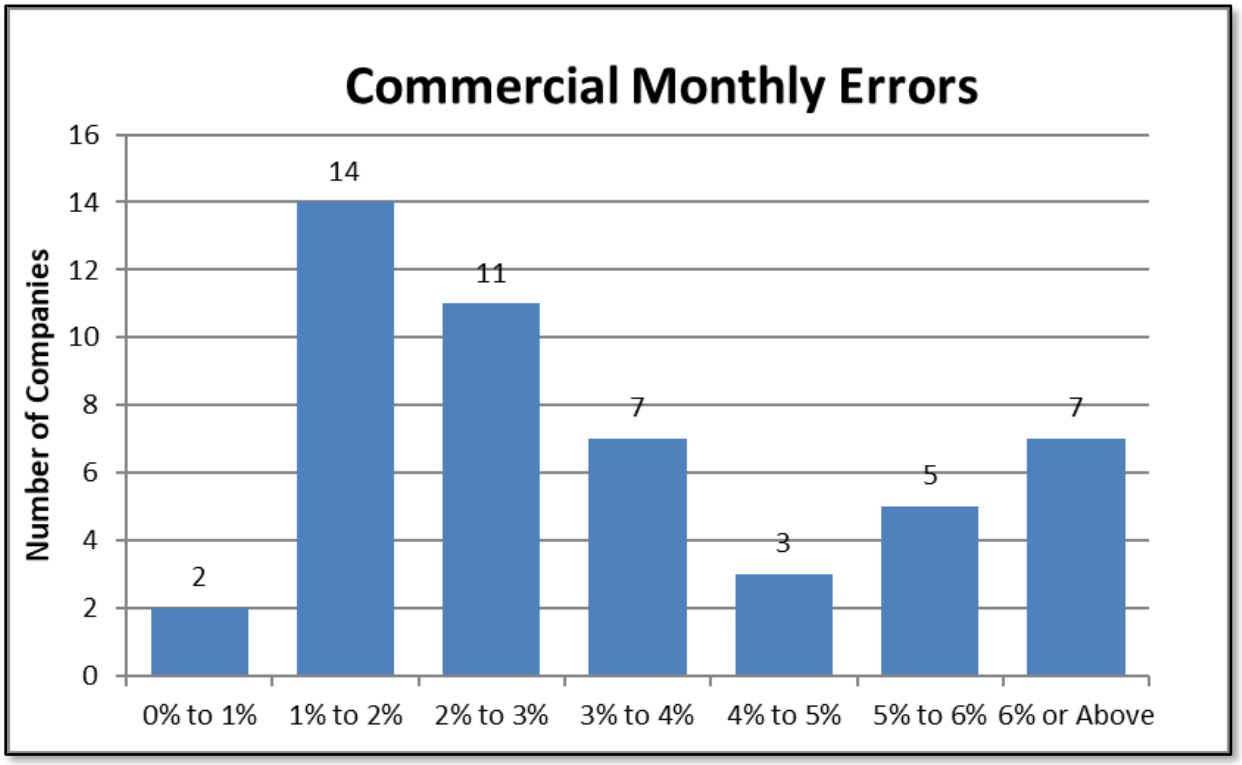
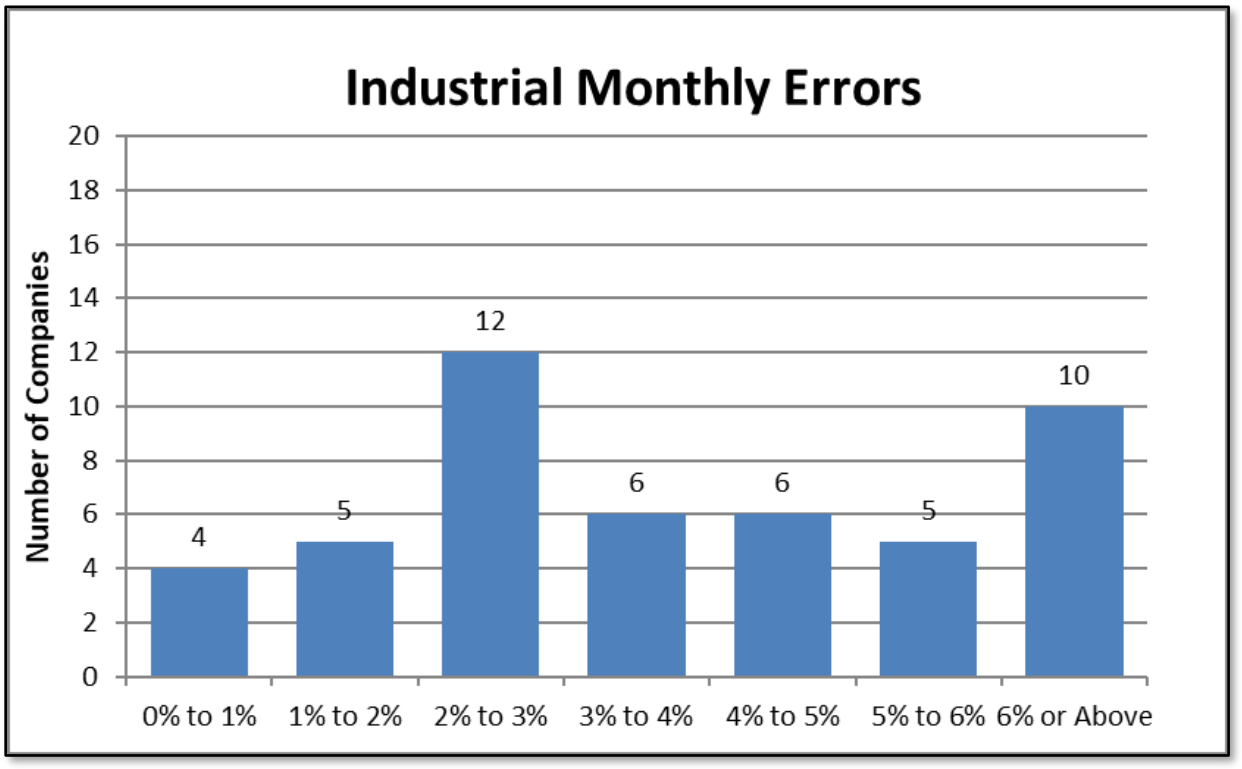


Figure 26: Industrial Monthly Errors



Natural Gas Forecast Errors

Similar to the electric forecasting errors, natural gas companies were asked to compare their forecast for 2018 (generated in 2017) against actual and weather normalized sales in 2018. Figure 27 shows the respondents' unweighted annual MAPEs. Figure 28 shows the unweighted monthly MAPEs.

Annual Forecast Accuracy. The Residential, Commercial and System class forecasts are consistent with prior surveys. In the residential class 58% of respondents report error within 3% (-3% to +3%). In the commercial and industrial classes, the percent of respondents reporting error within the same margin (+/- 3%) are 64% and 27% respectively.

Figure 27: Natural Gas Error Results (Unweighted)

	Against Weather Normalized Actual Values						Against Actual Values				
Class	2014 Survey	2015 Survey	2016 Survey	2017 Survey	2018 Survey	2019 Survey	2015 Survey	2016 Survey	2017 Survey	2018 Survey	2019 Survey
Residential	2.90	3.71	1.88	2.26	2.93	3.31	11.36	4.52	11.62	13.86	7.19
Commerical	3.95	3.25	2.79	3.18	5.01	5.02	10.16	2.63	8.66	5.52	6.26
Industrial	6.44	5.03	2.64	13.50	7.53	8.87	9.86	2.26	13.59	7.13	8.89
System	2.31	3.24	3.04	2.82	5.56	5.56	9.62	3.66	7.92	9.01	8.41

Monthly Forecast Accuracy. Monthly forecast accuracy is considerably higher than annual accuracy because variations in monthly errors are cannot be offset when aggregated to the annual totals. The monthly MAPEs are shown in Figure 28.

Figure 28: Monthly Average Gas Error Results (Unweighted)

Class	2018 Survey	2019 Survey
Residential	7.28	6.82
Commerical	6.68	8.84
Industrial	10.17	10.33

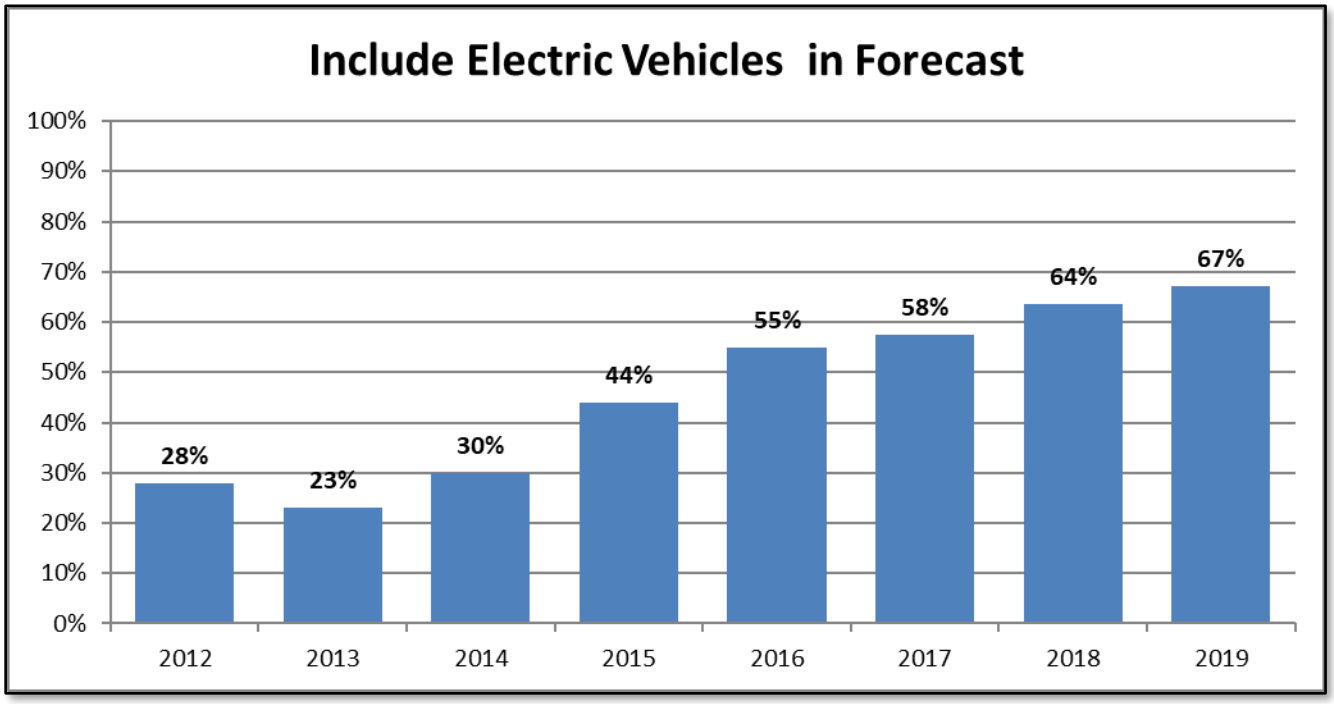
Key Forecast Drivers

As part of the annual forecast survey, Itron continues to track changes in forecasting practices. Changes include accounting for new technologies, forecast methods and business processes. This section includes responses to questions about electric vehicles, photovoltaics, energy storage, types of forecasts, DSM modelling and AMI data applications.

Electric Vehicles.

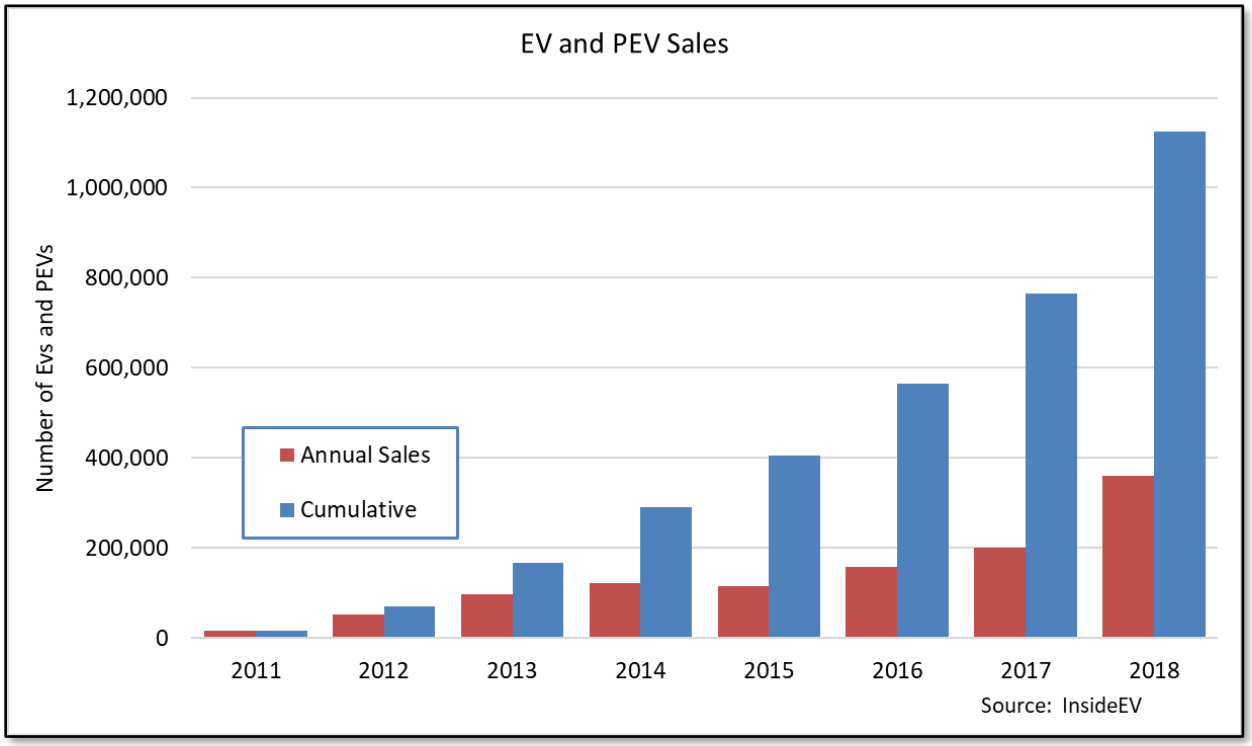
The percentage of respondents who explicitly include electric vehicles (EVs) in their forecast appears to be slowly increasing, as expected. In 2019, 67% of respondents included EVs in their forecast. This number is just slightly higher than those reported since 2017. Figure 29 shows the 2019 survey result compared to prior year results.

Figure 29: Include Electric Vehicles in the Forecast



EV sales continue to accelerate with 2018 sales growth of 47% over 2017. For the first time, EVs constitute over one million vehicles on the road (cumulative sales estimated since 2011). In 2018 alone, Tesla accounts for over 50% of EV sales. Figure 30 shows cumulative number of EV and plug-in EV sales, compiled from *InsideEV* data reports.

Figure 30: Electric and Plug-In Electric Vehicles Sales



Photovoltaics.

Figure 31 shows the share of respondents that include photovoltaics (PV) in their forecast. This year, 75% of respondents now include PV forecasts in their forecasts.

Figure 31: Include Photovoltaics in the Forecast

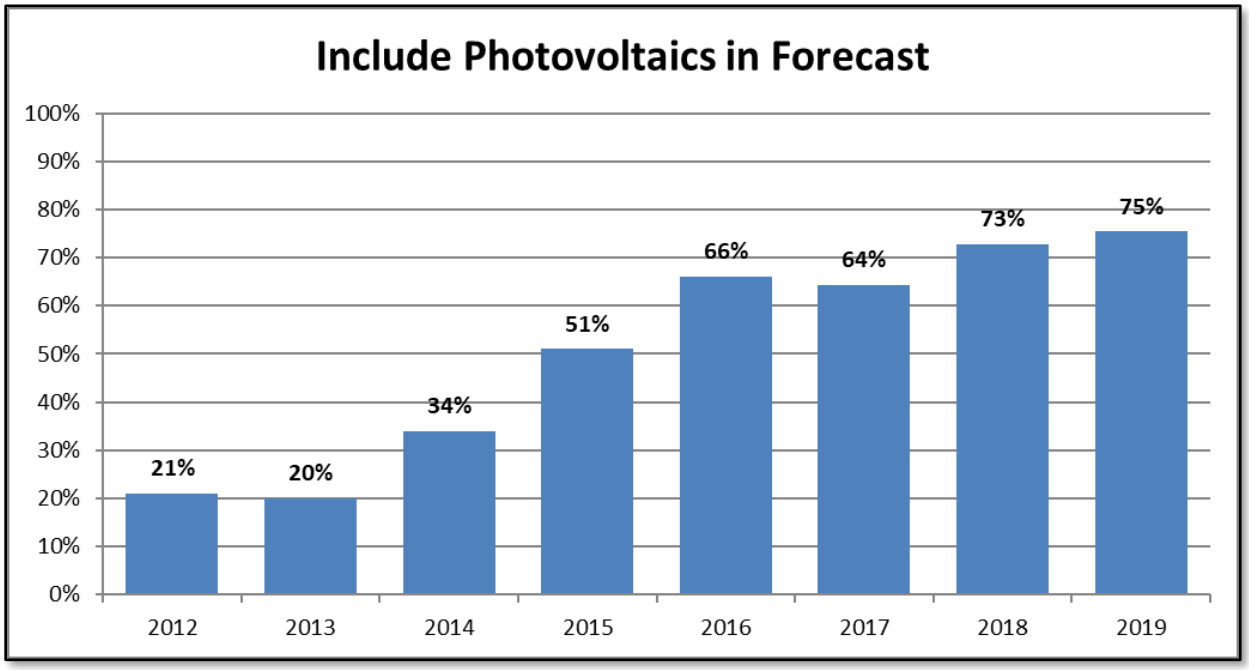
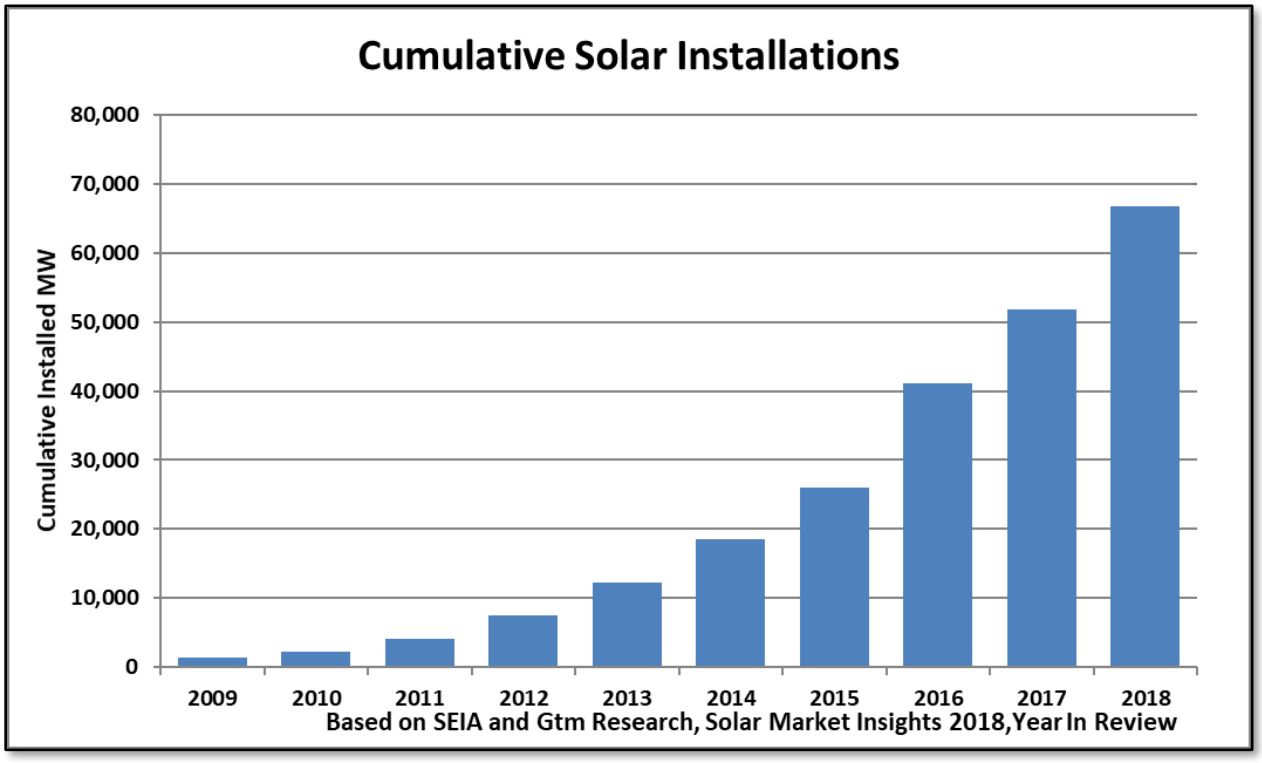


Figure 32 shows the cumulative growth in installed solar capacity across the United States. In 2018, solar installations rebounded from a slow 2017 back to the 2016 growth levels. Overall, the cumulative level of installations continues to show a strong upward trend.

Figure 32: Solar Installations

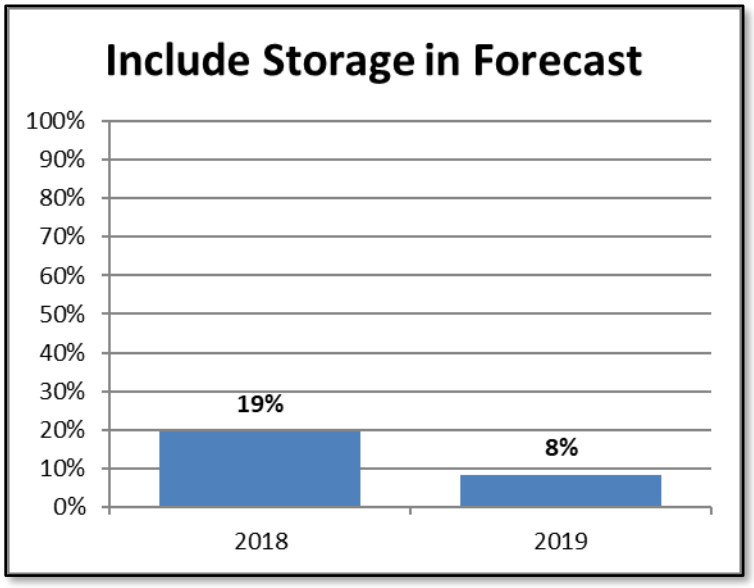


Electric Storage.

For the second time, the survey asks whether respondents are explicitly including energy storage in their forecasts. The results are shown in Figure 33. Like last year, very few respondents account for storage. While the survey shows a decline of respondents from 19% to 8%, the difference is attributed to the change in survey participants.

The storage market continues to be in the nascent stages making forecasting technology penetration and usage patterns difficult. As with any new technology, companies should closely watch the market to identify signs and factors that will assist them in forecasting this technology.

Figure 33: Include Battery/Storage in the Forecast

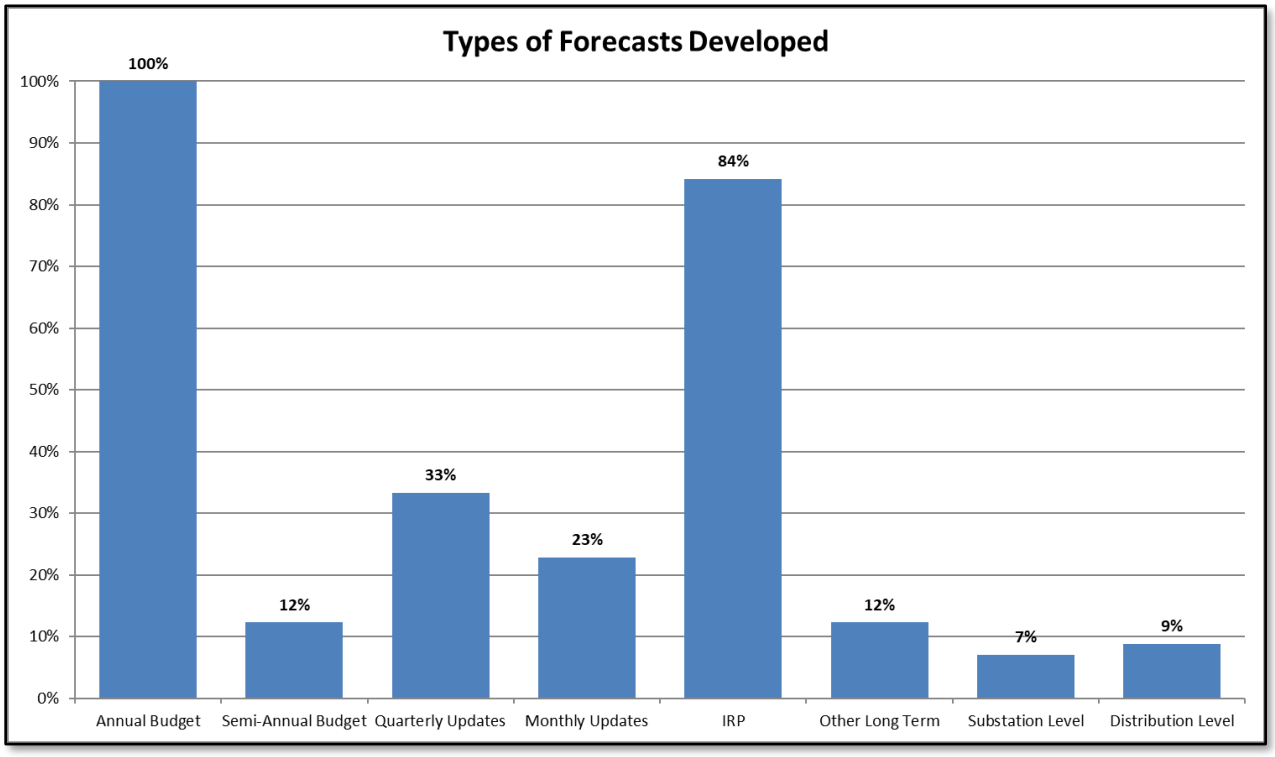


Forecasts Generated Each Year.

In 2018, the survey asked companies how many forecasts they developed each year. This year, the survey focuses on the types of forecasts each respondent makes. Figure 34 shows the percentage of respondents who generate each type of forecast.

As expected, all respondents generate an annual budget forecast. However, 68% update the budget forecast at least once during the year. These updates are shown as Semi-Annual, Quarterly and Monthly updates in Figure 34. In addition to the annual budget process, Figure 34 identifies that respondents create addition types of forecasts (IRP, Substation, Distribution and Other). While 84% of respondents create an Integrated Resource Plan (IRP) forecast, the survey does not indicate their frequency. Typically, IRP and other types of forecasts are developed on multi-year cycles.

Figure 34: Types of Forecasts



DSM Modelling.

In 2013, Itron asked companies how they model DSM in their forecast. At that time, DSM modelling was emerging as a new challenge. Since 2013, more defined DSM modelling methods have emerged and been discussed at Itron's Annual Energy Forecasting Group meeting. This year, the survey asks respondents to identify how they are modelling DSM. Figure 35 shows the results.

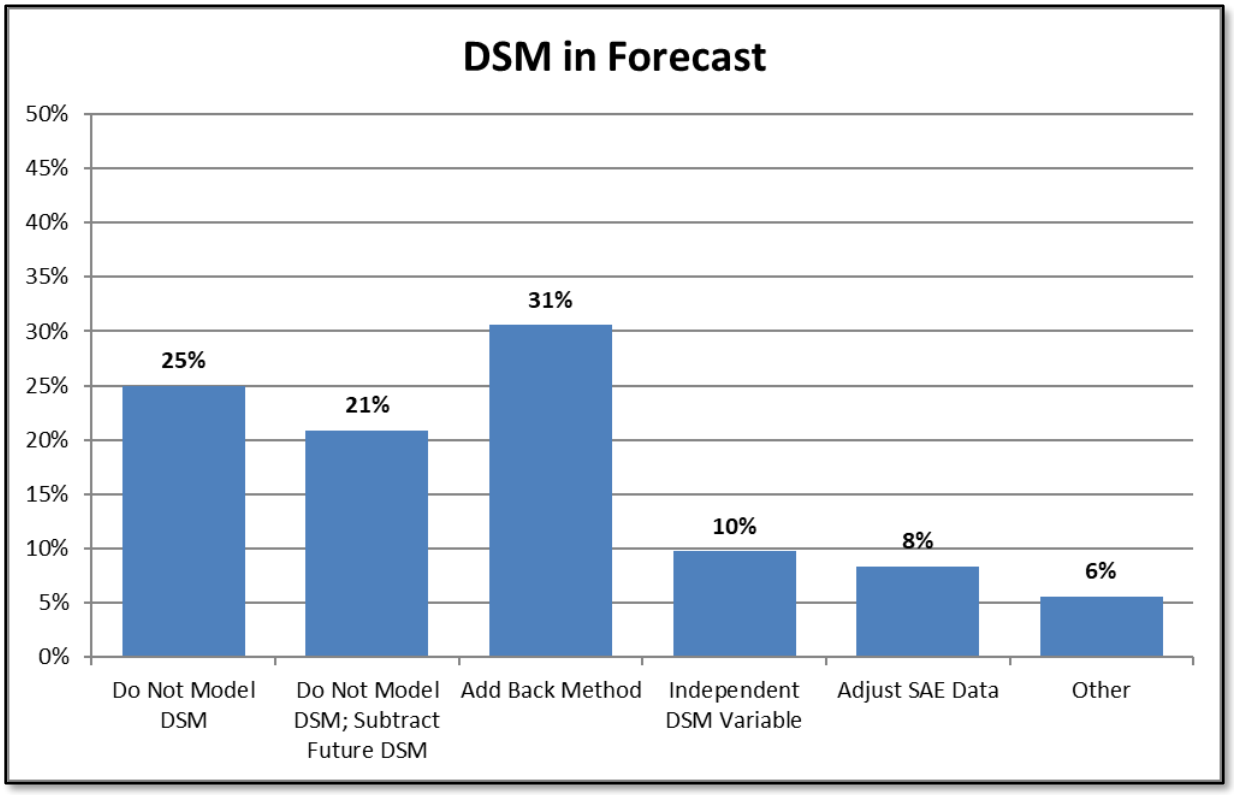
The results show that 25% do not model and 21% do not model DSM but subtract future DSM from the forecast. These responses imply that historic DSM, if present, is embedded in the historical data series and no further modeling adjustment is needed.

In the Add Back method (31% of respondents), companies reconstruct historic sales by reconstituting (or adding back) historic DSM savings. The forecast models are developed assuming growth in the absence of DSM. As a final step, the historic DSM is subtracted from the forecast.

Using an Independent DSM Variable (10% of respondents) allows the regression model to capture the statistical significance of historic DSM and applies the regression coefficient to the changes in DSM throughout the forecast period.

A Statistically Adjusted End-Use (SAE) model captures changes in energy efficiency in the embedded regression driver variables. The Adjust SAE Data (8% of respondents) method modifies the underlying SAE efficiency driver variables to reflect historic DSM savings.

Figure 35: DSM Modelling Techniques



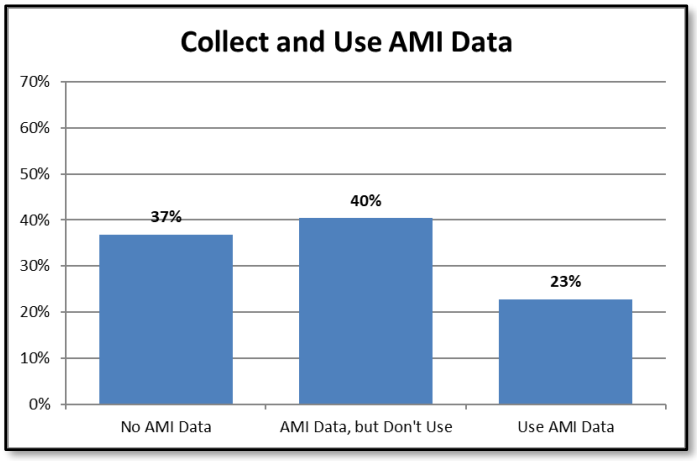
AMI Data Usage.

In 2013, Itron asked respondents about the status of the AMI deployments. At that time only 14% of companies had completed their AMI deployment with 37% still deploying meters. This year, the survey asks two questions regarding AMI. First, the survey asks whether the company is currently collecting AMI data (Figure 36). This question identifies how many companies have access to AMI data. Second, the survey asks how forecasters use these data (

Figure 37).

As shown in Figure 36, 63% of companies have access to AMI data. While this is a dramatic increase from the 2013 results, only 23% of companies indicate that they use these data for forecasting. The low response implies that either the data is not easily accessible to forecasters or that the forecasters have not pursued applying AMI data into their typical job functions.

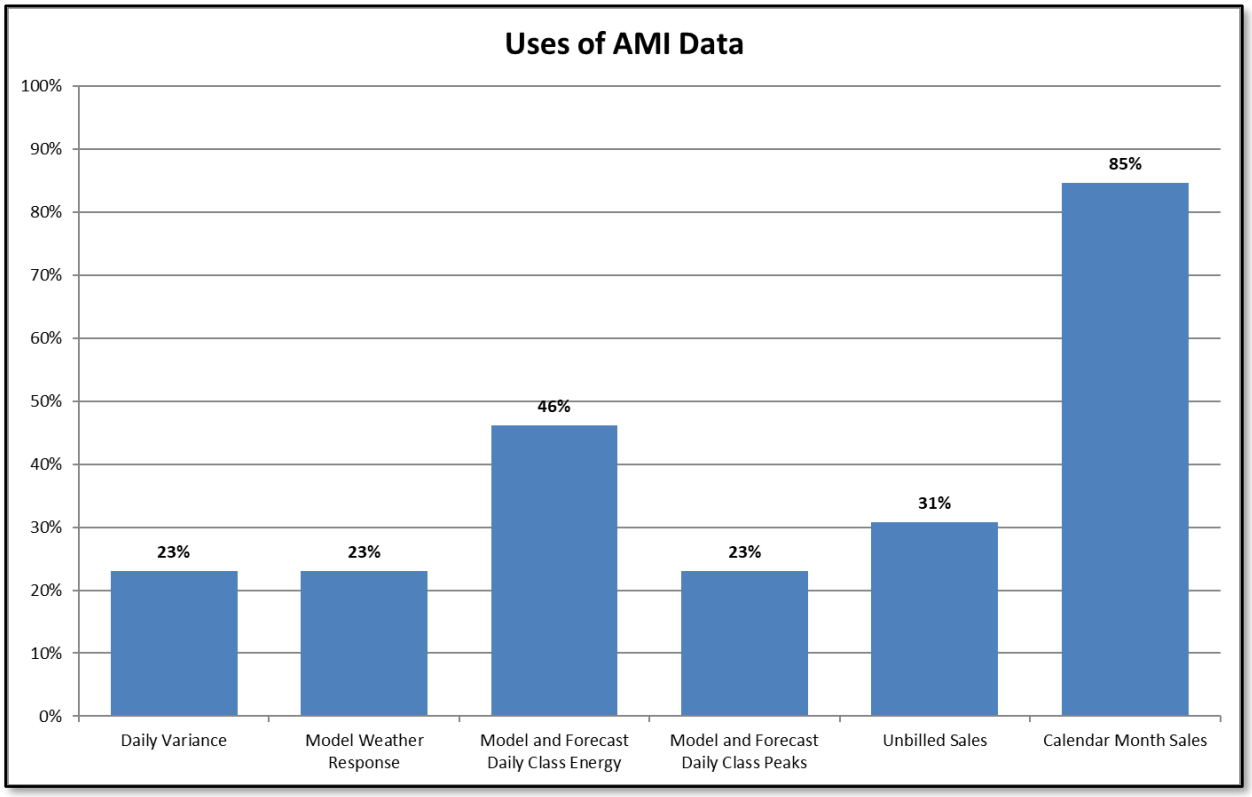
Figure 36: AMI Data Availability



Of respondents who use AMI data,

Figure 37 shows how they apply it to forecasting. The largest use of AMI data (85%) is in developing Calendar Month sales. The availability of daily (or hourly) interval data can simplify the conversion of billing month data to calendar month data or the calculation of unbilled sales (31%). The second largest application (46%) uses AMI data for daily energy modelling. With increased data granularity, forecasting at the daily level is now possible. While daily modeling begins with energy, it is easily expanded to daily peaks (23%) and daily variance analysis (23%). Finally, AMI data is used like an expanded load research dataset. In this application, AMI data is used to analyze and improve weather response (23%) modeling.

Figure 37: AMI Data Usage



As AMI data becomes available, forecasters should consider improving their forecasting and analytical processes to utilize the richer dataset.

Conclusion

The Itron Forecasting Benchmark Survey provides insight into the changing outlook of energy demand, evolving usage trends and forecast accuracy. The 2019 survey respondents represent over half of electric sales in North America and provides a strong representation of the industry.

This year's survey continues to reinforce the industry growth patterns and accuracy expectations since Itron's first survey in 2012. Amid the stable findings, forecast characteristic responses indicated that energy storage, AMI data and the type of forecasts will press forecasters into new areas with increasing responsibilities in the near future.

Minnesota Electric Calendar Month Weather Normalization

	Calendar Month Sales (MWh)				Calendar Month Customers			Calendar Month Weather HEATING		Calendar Month Weather COOLING		Coefficients - HEATING Calendar Month - based on HDD65			Coefficients - COOLING Calendar Month - based on THI65		
	Res w/out Space Htg	Res w/ Space Htg	Total Residential	Small C&I	Res w/out Space Htg	Res w/ Space Htg	Small C&I	Actual HDD65	Normal HDD65	Actual THI65	Normal THI65	Res w/out Space Htg	Res w/ Space Htg	Small C&I	Res w/out Space Htg	Res w/ Space Htg	Small C&I
1			0						1,489		0	0.000124631	0.000829336	0.000364924	0.000000000	0.000000000	0.000000000
2			0						1,266		0	0.000098606	0.000788333	0.000406860	0.000000000	0.000000000	0.000000000
3			0						975		0	0.000075559	0.000760308	0.000243214	0.000000000	0.000000000	0.000000000
4			0						526		1	0.000030703	0.000701472	0.000000000	0.000842510	0.000003491	0.000014811
5			0						209		20	0.000000000	0.000298259	0.000000000	0.001857561	0.001219580	0.005174291
6			0						26		95	0.000000000	0.000000000	0.000000000	0.001925867	0.001845772	0.008930225
7			0						3		195	0.000000000	0.000000000	0.000000000	0.001943177	0.001473602	0.008868523
8			0						6		137	0.000000000	0.000000000	0.000000000	0.002047618	0.001447314	0.010569545
9			0						112		51	0.000033026	0.000272690	0.000000000	0.002019598	0.000726719	0.015971332
10			0						484		3	0.000075103	0.000574177	0.000001029	0.000904387	0.000000000	0.009557400
11			0						876		0	0.000105240	0.000697914	0.000131862	0.000000000	0.000000000	0.000000000
12			0						1,341		0	0.000132268	0.000824002	0.000328401	0.000000000	0.000000000	0.000000000
	0	0	0	0				0	7,314	0	502						

	Calendar Month Weather Effect from HEATING			Calendar Month Weather Effect from COOLING			Calendar Month Weather Effect HEATING AND COOLING			Calendar Month Weather Normalized Sales (MWh)			
	Res w/out Space Htg	Res w/ Space Htg	Small C&I	Res w/out Space Htg	Res w/ Space Htg	Small C&I	Res w/out Space Htg	Res w/ Space Htg	Small C&I	Res w/out Space Htg	Res w/ Space Htg	Total Residential	Small C&I
1	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0

Xcel Energy Minnesota Residential without Space Heat
Weather Normalization Model

Variable	Coefficient	StdErr	T-Stat	P-Value	Definition
CYPNR_MN	1258.619	403.673	3.118	0.21%	Real Personal Income per Capita, Minnesota, millions 2012$, Bureau of Economic Analysis
BillDaysCellnet21	15777.035	672.940	23.445	0.00%	Average number of billing days per month
H65_bill_RX_MN_Jan	0.0001422	0.0000046	30.693	0.00%	Heating Degree Days*Number Residential without Space Heat Customers, January
H65_bill_RX_MN_Feb	0.0001090	0.0000045	24.288	0.00%	Heating Degree Days*Number Residential without Space Heat Customers, February
H65_bill_RX_MN_Mar	0.0000916	0.0000049	18.830	0.00%	Heating Degree Days*Number Residential without Space Heat Customers, March
H65_bill_RX_MN_Apr	0.0000584	0.0000070	8.320	0.00%	Heating Degree Days*Number Residential without Space Heat Customers, April
H65_bill_RX_MN_Oct	0.0000667	0.0000241	2.764	0.63%	Heating Degree Days*Number Residential without Space Heat Customers, October
H65_bill_RX_MN_Nov	0.0000824	0.0000102	8.119	0.00%	Heating Degree Days*Number Residential without Space Heat Customers, November
H65_bill_RX_MN_Dec	0.0001211	0.0000059	20.603	0.00%	Heating Degree Days*Number Residential without Space Heat Customers, December
T65_bill_RX_MN_May	0.0017747	0.0008566	2.072	3.97%	Cooling Degree Days*Number Residential without Space Heat Customers, May
T65_bill_RX_MN_Jun	0.0019241	0.0000882	21.815	0.00%	Cooling Degree Days*Number Residential without Space Heat Customers, June
T65_bill_RX_MN_Jul	0.0019276	0.0000352	54.832	0.00%	Cooling Degree Days*Number Residential without Space Heat Customers, July
T65_bill_RX_MN_Aug	0.0019589	0.0000328	59.659	0.00%	Cooling Degree Days*Number Residential without Space Heat Customers, August
T65_bill_RX_MN_Sep	0.0021377	0.0000657	32.540	0.00%	Cooling Degree Days*Number Residential without Space Heat Customers, September
T65_bill_RX_MN_Oct	0.0018992	0.0002003	9.483	0.00%	Cooling Degree Days*Number Residential without Space Heat Customers, October
Sep2013	-42991.801	15740.251	-2.731	0.69%	Binary variable September 2013 = 1, otherwise = 0
Dec2016	-43688.553	13650.326	-3.201	0.16%	Binary variable December 2016 = 1, otherwise = 0
AR(1)	0.754	0.052	14.486	0.00%	First order autoregressive correction term

Xcel Energy Minnesota Residential without Space Heat
Weather Normalization Model

Model Statistics		
Iterations		18
Adjusted Observations		203
Deg. of Freedom for Error		185
R-Squared		0.984
Adjusted R-Squared		0.983
AIC		19.528
BIC		19.822
F-Statistic	#NA	
Prob (F-Statistic)	#NA	
Log-Likelihood		-2,252.18
Model Sum of Squares		3,240,945,106,107.25
Sum of Squared Errors		51,470,053,634.84
Mean Squared Error		278,216,506.13
Std. Error of Regression		16,679.82
Mean Abs. Dev. (MAD)		11,934.78
Mean Abs. % Err. (MAPE)		1.72%
Durbin-Watson Statistic		2.173
Durbin-H Statistic	#NA	
Ljung-Box Statistic		46.57
Prob (Ljung-Box)		0.0038
Skewness		-0.310
Kurtosis		3.713
Jarque-Bera		7.547
Prob (Jarque-Bera)		0.0230

Forecast Statistics	
Forecast Observations	0
Mean Abs. Dev. (MAD)	0.00
Mean Abs. % Err. (MAPE)	0.00%
Avg. Forecast Error	0.00
Mean % Error	0.00%
Root Mean-Square Error	0.00
Theil's Inequality Coefficient	0.0000
-- Bias Proportion	0.00%
-- Variance Proportion	0.00%
-- Covariance Proportion	0.00%

Xcel Energy Minnesota Residential without Space Heat Weather Normalization Model

					Original Coefficients			
		PRORATES			HEATING		COOLING	
		Billed Current	1st Future	2nd Future	Billing	Calendar	Billing	Calendar
2021	1	47.62%	51.31%	1.08%	0.000142172	0.000124631	0.000000000	0.000000000
2021	2	40.14%	59.86%	0.00%	0.000109044	0.000098606	0.000000000	0.000000000
2021	3	51.61%	48.39%	0.00%	0.000091609	0.000075559	0.000000000	0.000000000
2021	4	52.54%	47.30%	0.16%	0.000058439	0.000030703	0.000000000	0.000842510
2021	5	44.55%	55.45%	0.00%	0.000000000	0.000000000	0.001774688	0.001857561
2021	6	50.00%	50.00%	0.00%	0.000000000	0.000000000	0.001924134	0.001925867
2021	7	50.23%	49.77%	0.00%	0.000000000	0.000000000	0.001927600	0.001943177
2021	8	50.38%	49.62%	0.00%	0.000000000	0.000000000	0.001958898	0.002047618
2021	9	50.48%	49.52%	0.00%	0.000000000	0.000033026	0.002137711	0.002019598
2021	10	47.62%	51.92%	0.46%	0.000066687	0.000075103	0.001899213	0.000904387
2021	11	40.95%	59.05%	0.00%	0.000082413	0.000105240	0.000000000	0.000000000
2021	12	46.70%	53.15%	0.15%	0.000121071	0.000132268	0.000000000	0.000000000
2022	1				0.000142172		0.000000000	
2022	2				0.000109044		0.000000000	

Xcel Energy Minnesota Residential with Space Heat
Weather Normalization Model

Variable	Coefficient	StdErr	T-Stat	P-Value	Definition
CONST	21129.959	939.546	22.490	0.00%	Constant term
H65_bill_RH_MN_Jan	0.0008716	0.0000114	76.234	0.00%	Heating Degree Days*Number Residential Space Heating Customers, January
H65_bill_RH_MN_Feb	0.0007910	0.0000129	61.190	0.00%	Heating Degree Days*Number Residential Space Heating Customers, February
H65_bill_RH_MN_Mar	0.0007865	0.0000141	55.862	0.00%	Heating Degree Days*Number Residential Space Heating Customers, March
H65_bill_RH_MN_Apr	0.0007323	0.0000229	31.949	0.00%	Heating Degree Days*Number Residential Space Heating Customers, April
H65_bill_RH_MN_May	0.0006695	0.0000459	14.589	0.00%	Heating Degree Days*Number Residential Space Heating Customers, May
H65_bill_RH_MN_Oct	0.0005506	0.0000588	9.366	0.00%	Heating Degree Days*Number Residential Space Heating Customers, October
H65_bill_RH_MN_Nov	0.0005940	0.0000281	21.137	0.00%	Heating Degree Days*Number Residential Space Heating Customers, November
H65_bill_RH_MN_Dec	0.0007700	0.0000153	50.298	0.00%	Heating Degree Days*Number Residential Space Heating Customers, December
T65_bill_RH_MN_Jun	0.0021993	0.0002610	8.428	0.00%	Cooling Degree Days*Number Residential Space Heating Customers, June
T65_bill_RH_MN_Jul	0.0014922	0.0001081	13.804	0.00%	Cooling Degree Days*Number Residential Space Heating Customers, July
T65_bill_RH_MN_Aug	0.0014548	0.0000953	15.261	0.00%	Cooling Degree Days*Number Residential Space Heating Customers, August
T65_bill_RH_MN_Sep	0.0014397	0.0001682	8.559	0.00%	Cooling Degree Days*Number Residential Space Heating Customers, September
Dec2016	-3256.032	1242.595	-2.620	0.95%	Binary variable December 2016 = 1, otherwise = 0
CYP_MSP	-0.029	0.006	-5.081	0.00%	Real Personal Income, Minneapolis-St. Paul-Bloomington, MN-WI, millions 2012$, Bureau of Economic Analysis
SMA(1)	0.287	0.078	3.667	0.03%	First order seasonal moving average correction term

Dependent Variable					Definition
SLS_ResSH_MN					Billed Sales (MWh) for the Residential with Space Heat customer class.

Xcel Energy Minnesota Residential with Space Heat
Weather Normalization Model

Model Statistics	
Iterations	16
Adjusted Observations	204
Deg. of Freedom for Error	188
R-Squared	0.991
Adjusted R-Squared	0.990
AIC	14.368
BIC	14.628
F-Statistic	1406.726
Prob (F-Statistic)	0.0000
Log-Likelihood	-1,738.97
Model Sum of Squares	33,998,450,988.74
Sum of Squared Errors	302,911,776.33
Mean Squared Error	1,611,232.85
Std. Error of Regression	1,269.34
Mean Abs. Dev. (MAD)	964.47
Mean Abs. % Err. (MAPE)	3.36%
Durbin-Watson Statistic	1.769
Durbin-H Statistic	#NA
Ljung-Box Statistic	54.50
Prob (Ljung-Box)	0.0004
Skewness	0.125
Kurtosis	2.995
Jarque-Bera	0.532
Prob (Jarque-Bera)	0.7666

Forecast Statistics	
Forecast Observations	0
Mean Abs. Dev. (MAD)	0.00
Mean Abs. % Err. (MAPE)	0.00%
Avg. Forecast Error	0.00
Mean % Error	0.00%
Root Mean-Square Error	0.00
Theil's Inequality Coefficient	0.0000
-- Bias Proportion	0.00%
-- Variance Proportion	0.00%
-- Covariance Proportion	0.00%

Xcel Energy Minnesota Residential with Space Heat

Weather Normalization Model

					Original Coefficients			
		PRORATES			HEATING		COOLING	
		Billed Current	1st Future	2nd Future	Billing	Calendar	Billing	Calendar
2021	1	47.62%	51.31%	1.08%	0.000871583	0.000829336	0.000000000	0.000000000
2021	2	40.14%	59.86%	0.00%	0.000791022	0.000788333	0.000000000	0.000000000
2021	3	51.61%	48.39%	0.00%	0.000786529	0.000760308	0.000000000	0.000000000
2021	4	52.54%	47.30%	0.16%	0.000732339	0.000701472	0.000000000	0.000003491
2021	5	44.55%	55.45%	0.00%	0.000669541	0.000298259	0.000000000	0.001219580
2021	6	50.00%	50.00%	0.00%	0.000000000	0.000000000	0.002199298	0.001845772
2021	7	50.23%	49.77%	0.00%	0.000000000	0.000000000	0.001492246	0.001473602
2021	8	50.38%	49.62%	0.00%	0.000000000	0.000000000	0.001454786	0.001447314
2021	9	50.48%	49.52%	0.00%	0.000000000	0.000272690	0.001439726	0.000726719
2021	10	47.62%	51.92%	0.46%	0.000550623	0.000574177	0.000000000	0.000000000
2021	11	40.95%	59.05%	0.00%	0.000594042	0.000697914	0.000000000	0.000000000
2021	12	46.70%	53.15%	0.15%	0.000769954	0.000824002	0.000000000	0.000000000
2022	1				0.000871583		0.000000000	
2022	2				0.000791022		0.000000000	

Xcel Energy Minnesota Small Commercial and Industrial
Weather Normalization Model

Variable	Coefficient	StdErr	T-Stat	P-Value	Definition
H65_bill_SmCI_MN_Jan	0.00042078	0.00005409	7.780	0.00%	Heating Degree Days*Number Small C&I Customers, January
H65_bill_SmCI_MN_Feb	0.00031085	0.00005243	5.929	0.00%	Heating Degree Days*Number Small C&I Customers, February
H65_bill_SmCI_MN_Mar	0.00047123	0.00005443	8.657	0.00%	Heating Degree Days*Number Small C&I Customers, March
H65_bill_SmCI_MN_Dec	0.00022332	0.00006038	3.698	0.03%	Heating Degree Days*Number Small C&I Customers, December
T65_bill_SmCI_MN_Jun	0.00933092	0.00108569	8.594	0.00%	Cooling Degree Days*Number Small C&I Customers, June
T65_bill_SmCI_MN_Jul	0.00852953	0.00044092	19.345	0.00%	Cooling Degree Days*Number Small C&I Customers, July
T65_bill_SmCI_MN_Aug	0.00921066	0.00039845	23.116	0.00%	Cooling Degree Days*Number Small C&I Customers, August
T65_bill_SmCI_MN_Sep	0.01194947	0.00068937	17.334	0.00%	Cooling Degree Days*Number Small C&I Customers, September
T65_bill_SmCI_MN_Oct	0.02007054	0.00245791	8.166	0.00%	Cooling Degree Days*Number Small C&I Customers, October
Mar2005	-79813.96982947	31545.62675651	-2.530	1.22%	Binary variable March 2005 = 1, otherwise = 0
May2006	-114630.67927130	29891.73075934	-3.835	0.02%	Binary variable May 2006 = 1, otherwise = 0
Feb2005	-215356.54920314	31660.55482711	-6.802	0.00%	Binary variable February 2005 = 1, otherwise = 0
PostCRS2005	90707.14852315	10696.22899058	8.480	0.00%	Binary variable to account for billing system change starting in February 2005=1, otherwise=0
Post2012	-38887.09344609	7289.79721486	-5.334	0.00%	Binary variable starting in January 2012=1, otherwise=0
Post2018	-5130.56224081	1101.65718787	-4.657	0.00%	Trend variable starting in June 2018=1 through December 2019=19 and onward, otherwise=0
MA12_EEMN	101.32816449	15.74406849	6.436	0.00%	12-month moving average of Non-farm employment, Minnesota, thousands, Bureau of Labor Statistics
BillDaysCellnet21	22991.73679904	1390.40755492	16.536	0.00%	Average number of billing days per month
AR(1)	0.32134988	0.07005648	4.587	0.00%	First order autoregressive correction term

Xcel Energy Minnesota Small Commercial and Industrial
Weather Normalization Model

Model Statistics		
Iterations		13
Adjusted Observations		203
Deg. of Freedom for Error		185
R-Squared		0.918
Adjusted R-Squared		0.911
AIC		20.756
BIC		21.050
F-Statistic	#NA	
Prob (F-Statistic)	#NA	
Log-Likelihood		-2,376.76
Model Sum of Squares		1,967,979,467,376.62
Sum of Squared Errors		175,635,810,714.63
Mean Squared Error		949,382,760.62
Std. Error of Regression		30,812.06
Mean Abs. Dev. (MAD)		23,126.58
Mean Abs. % Err. (MAPE)		2.08%
Durbin-Watson Statistic		2.139
Durbin-H Statistic	#NA	
Ljung-Box Statistic		49.15
Prob (Ljung-Box)		0.0018
Skewness		0.331
Kurtosis		3.730
Jarque-Bera		8.211
Prob (Jarque-Bera)		0.0165

Forecast Statistics	
Forecast Observations	0
Mean Abs. Dev. (MAD)	0.00
Mean Abs. % Err. (MAPE)	0.00%
Avg. Forecast Error	0.00
Mean % Error	0.00%
Root Mean-Square Error	0.00
Theil's Inequality Coefficient	0.0000
-- Bias Proportion	0.00%
-- Variance Proportion	0.00%
-- Covariance Proportion	0.00%

Xcel Energy Minnesota Small Commercial and Industrial

Weather Normalization Model

					Original Coefficients			
		PRORATES			HEATING		COOLING	
		Billed Current	1st Future	2nd Future	Billing	Calendar	Billing	Calendar
2021	1	47.62%	51.31%	1.08%	0.000420781	0.000364924	0.000000000	0.000000000
2021	2	40.14%	59.86%	0.00%	0.000310853	0.000406860	0.000000000	0.000000000
2021	3	51.61%	48.39%	0.00%	0.000471228	0.000243214	0.000000000	0.000000000
2021	4	52.54%	47.30%	0.16%	0.000000000	0.000000000	0.000000000	0.000014811
2021	5	44.55%	55.45%	0.00%	0.000000000	0.000000000	0.000000000	0.005174291
2021	6	50.00%	50.00%	0.00%	0.000000000	0.000000000	0.009330924	0.008930225
2021	7	50.23%	49.77%	0.00%	0.000000000	0.000000000	0.008529526	0.008868523
2021	8	50.38%	49.62%	0.00%	0.000000000	0.000000000	0.009210658	0.010569545
2021	9	50.48%	49.52%	0.00%	0.000000000	0.000000000	0.011949468	0.015971332
2021	10	47.62%	51.92%	0.46%	0.000000000	0.000001029	0.020070541	0.009557400
2021	11	40.95%	59.05%	0.00%	0.000000000	0.000131862	0.000000000	0.000000000
2021	12	46.70%	53.15%	0.15%	0.000223315	0.000328401	0.000000000	0.000000000
2022	1	48.85%	50.38%	0.77%	0.000420781		0.000000000	
2022	2	40.48%	59.52%	0.00%	0.000310853		0.000000000	

Xcel Energy - Minnesota State
Test Year Sales and Customers Forecast by Customer Class for 2021-2025

Weather Normalized Calendar Month Sales (MWh)

	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	2021 Year
Residential without Space Heat	749,139	622,631	637,530	557,053	599,354	757,985	918,907	867,863	636,241	580,489	597,804	723,180	8,248,178
Residential with Space Heat	61,371	46,982	36,129	23,546	22,926	23,349	26,020	24,064	21,342	26,473	39,417	53,400	405,020
Small Commercial & Industrial	1,001,508	871,108	1,039,298	828,076	900,737	979,174	1,123,532	1,108,907	961,290	955,076	949,027	971,538	11,689,271
Large Commercial & Industrial	532,011	505,961	600,551	541,640	571,006	551,211	633,386	666,334	608,307	593,058	519,398	556,966	6,879,829
Public Street & Highway Lighting	11,454	9,392	8,975	7,306	5,913	4,923	4,491	5,308	6,439	8,044	9,302	10,852	92,399
Other Sales to Public Authority	4,938	4,283	5,203	4,615	4,244	5,456	6,218	7,273	6,358	5,266	4,325	4,617	62,796
Interdepartmental	310	544	554	292	375	935	609	601	883	595	412	447	6,558
Total Retail	2,360,730	2,060,901	2,328,240	1,962,530	2,104,555	2,323,034	2,713,163	2,680,350	2,240,861	2,169,001	2,119,686	2,320,999	27,384,049

Number of Customers

	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	2021 Average
Residential without Space Heat	1,136,145	1,136,598	1,137,253	1,137,225	1,136,908	1,136,244	1,136,114	1,137,125	1,137,597	1,139,338	1,140,237	1,141,429	1,137,684
Residential with Space Heat	37,432	37,429	37,457	37,484	37,513	37,564	37,616	37,668	37,748	37,830	37,911	37,990	37,637
Small Commercial & Industrial	133,683	133,511	133,337	133,162	132,989	132,815	132,641	132,467	132,293	132,351	132,408	132,466	132,844
Large Commercial & Industrial	501	501	501	501	501	501	501	501	501	501	501	501	501
Public Street & Highway Lighting	5,555	5,563	5,572	5,580	5,589	5,598	5,606	5,615	5,624	5,633	5,642	5,651	5,602
Other Sales to Public Authority	1,477	1,476	1,475	1,475	1,474	1,474	1,474	1,474	1,474	1,475	1,476	1,476	1,475
Interdepartmental	5	5	5	5	5	5	5	5	5	5	5	5	5
Total Retail	1,314,798	1,315,083	1,315,600	1,315,432	1,314,979	1,314,201	1,313,957	1,314,855	1,315,242	1,317,133	1,318,180	1,319,518	1,315,748

Xcel Energy - Minnesota State
Test Year Sales and Customers Forecast by Customer Class for 2021-2025

Weather Normalized Calendar Month Sales (MWh)

	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	2022 Year
Residential without Space Heat	758,811	600,971	625,695	539,327	599,810	746,538	922,443	854,190	621,445	575,372	592,866	713,588	8,151,056
Residential with Space Heat	62,173	47,583	36,550	23,753	23,057	23,505	26,200	24,180	21,455	26,727	39,884	54,120	409,186
Small Commercial & Industrial	1,026,663	864,306	1,088,912	867,378	944,799	1,047,135	1,149,541	1,105,988	957,377	917,649	941,395	978,384	11,889,527
Large Commercial & Industrial	537,622	507,056	602,491	546,953	567,162	553,783	636,992	674,403	611,938	597,398	521,996	561,974	6,919,768
Public Street & Highway Lighting	11,518	9,456	9,040	7,372	5,979	4,990	4,557	5,375	6,506	8,111	9,370	10,919	93,194
Other Sales to Public Authority	4,730	4,017	5,101	4,215	4,417	5,326	5,878	7,496	6,307	5,221	4,240	4,516	61,464
Interdepartmental	310	544	554	292	375	935	609	601	883	595	412	447	6,558
Total Retail	2,401,828	2,033,934	2,368,342	1,989,288	2,145,599	2,382,212	2,746,221	2,672,233	2,225,911	2,131,074	2,110,163	2,323,947	27,530,753

Number of Customers

	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	2022 Average
Residential without Space Heat	1,142,700	1,143,700	1,144,794	1,145,199	1,145,306	1,144,809	1,144,832	1,145,983	1,146,441	1,148,156	1,149,015	1,150,117	1,145,921
Residential with Space Heat	38,069	38,149	38,236	38,324	38,413	38,475	38,538	38,602	38,666	38,731	38,797	38,861	38,488
Small Commercial & Industrial	132,522	132,579	132,635	132,692	132,748	132,805	132,925	133,047	133,169	133,289	133,411	133,533	132,946
Large Commercial & Industrial	500	500	500	500	500	500	500	500	500	500	500	500	500
Public Street & Highway Lighting	5,660	5,669	5,678	5,687	5,696	5,706	5,715	5,724	5,733	5,742	5,751	5,759	5,710
Other Sales to Public Authority	1,476	1,477	1,478	1,478	1,479	1,479	1,479	1,479	1,479	1,479	1,479	1,479	1,478
Interdepartmental	5	5	5	5	5	5	5	5	5	5	5	5	5
Total Retail	1,320,932	1,322,079	1,323,326	1,323,885	1,324,147	1,323,779	1,323,994	1,325,340	1,325,993	1,327,902	1,328,958	1,330,254	1,325,049

Xcel Energy - Minnesota State
Test Year Sales and Customers Forecast by Customer Class for 2021-2025

Weather Normalized Calendar Month Sales (MWh)

	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	2023 Year
Residential without Space Heat	749,327	592,787	617,145	531,265	593,002	738,317	911,428	842,273	613,836	569,170	586,808	706,472	8,051,831
Residential with Space Heat	62,862	48,074	36,873	23,916	23,271	23,703	26,375	24,302	21,651	27,017	40,377	54,778	413,200
Small Commercial & Industrial	1,027,911	862,795	1,090,877	866,051	944,026	1,048,685	1,152,727	1,107,879	957,406	916,322	940,434	979,134	11,894,248
Large Commercial & Industrial	536,218	503,910	587,626	541,830	551,899	548,331	632,397	669,919	604,590	594,475	517,049	556,127	6,844,371
Public Street & Highway Lighting	11,585	9,522	9,105	7,436	6,043	5,053	4,620	5,437	6,567	8,171	9,430	10,978	93,946
Other Sales to Public Authority	4,595	3,898	4,980	3,859	4,599	5,232	5,818	7,411	5,974	5,411	4,174	4,455	60,405
Interdepartmental	310	544	554	292	375	935	609	601	883	595	412	447	6,558
Total Retail	2,392,808	2,021,531	2,347,161	1,974,649	2,123,214	2,370,256	2,733,974	2,657,820	2,210,907	2,121,163	2,098,684	2,312,391	27,364,557

Number of Customers

	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	2023 Average
Residential without Space Heat	1,151,288	1,152,180	1,153,208	1,153,543	1,153,573	1,152,974	1,152,894	1,153,938	1,154,372	1,156,061	1,156,895	1,157,904	1,154,069
Residential with Space Heat	38,925	38,989	39,072	39,156	39,239	39,293	39,346	39,400	39,472	39,544	39,617	39,665	39,310
Small Commercial & Industrial	133,652	133,773	133,892	134,012	134,133	134,253	134,373	134,493	134,614	134,734	134,854	134,974	134,313
Large Commercial & Industrial	499	499	499	499	499	499	499	499	499	499	499	499	499
Public Street & Highway Lighting	5,767	5,775	5,783	5,791	5,799	5,807	5,815	5,822	5,830	5,838	5,846	5,854	5,811
Other Sales to Public Authority	1,479	1,479	1,479	1,480	1,480	1,480	1,479	1,479	1,479	1,479	1,479	1,479	1,479
Interdepartmental	5	5	5	5	5	5	5	5	5	5	5	5	5
Total Retail	1,331,615	1,332,700	1,333,938	1,334,486	1,334,728	1,334,311	1,334,411	1,335,636	1,336,271	1,338,160	1,339,195	1,340,380	1,335,486

Xcel Energy - Minnesota State
Test Year Sales and Customers Forecast by Customer Class for 2021-2025

Weather Normalized Calendar Month Sales (MWh)

	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	2024 Year
Residential without Space Heat	747,849	614,891	615,175	530,344	592,363	737,037	903,652	832,925	607,809	564,149	581,996	700,706	8,028,897
Residential with Space Heat	63,508	50,428	37,099	23,906	23,264	23,691	26,309	24,113	21,546	27,076	40,653	55,310	416,901
Small Commercial & Industrial	1,024,791	891,388	1,088,379	860,433	938,821	1,045,718	1,151,247	1,105,123	953,052	910,624	935,069	975,312	11,879,959
Large Commercial & Industrial	528,903	496,837	579,920	539,469	548,297	542,720	634,050	665,400	607,017	595,093	512,898	556,393	6,806,997
Public Street & Highway Lighting	11,643	9,581	9,164	7,495	6,101	5,111	4,678	5,495	6,625	8,229	9,487	11,036	94,645
Other Sales to Public Authority	4,751	3,839	4,629	4,301	3,998	5,155	6,275	6,807	6,143	5,338	3,765	4,425	59,426
Interdepartmental	310	544	554	292	375	935	609	601	883	595	412	447	6,558
Total Retail	2,381,757	2,067,508	2,334,920	1,966,239	2,113,219	2,360,368	2,726,820	2,640,462	2,203,075	2,111,104	2,084,281	2,303,630	27,293,382

Number of Customers

	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	2024 Average
Residential without Space Heat	1,158,981	1,159,781	1,160,710	1,160,946	1,160,878	1,160,200	1,160,040	1,161,005	1,161,396	1,163,043	1,163,834	1,164,784	1,161,300
Residential with Space Heat	39,714	39,762	39,829	39,895	39,961	40,001	40,042	40,082	40,147	40,213	40,279	40,317	40,020
Small Commercial & Industrial	135,094	135,214	135,332	135,452	135,571	135,691	135,810	135,929	136,048	136,167	136,287	136,406	135,750
Large Commercial & Industrial	498	498	498	498	498	498	498	498	498	498	498	498	498
Public Street & Highway Lighting	5,861	5,869	5,877	5,884	5,892	5,900	5,907	5,915	5,923	5,930	5,938	5,945	5,903
Other Sales to Public Authority	1,478	1,478	1,478	1,478	1,478	1,477	1,476	1,476	1,476	1,475	1,475	1,475	1,477
Interdepartmental	5	5	5	5	5	5	5	5	5	5	5	5	5
Total Retail	1,341,631	1,342,607	1,343,729	1,344,158	1,344,283	1,343,772	1,343,778	1,344,910	1,345,493	1,347,331	1,348,316	1,349,430	1,344,953

Xcel Energy - Minnesota State
Test Year Sales and Customers Forecast by Customer Class for 2021-2025

Weather Normalized Calendar Month Sales (MWh)

	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Dec-25	2025 Year
Residential without Space Heat	744,356	588,442	611,870	527,339	590,558	734,117	891,869	818,407	597,675	555,991	573,597	691,598	7,925,820
Residential with Space Heat	63,891	48,713	37,215	23,968	23,497	23,848	26,338	24,069	21,692	27,259	40,936	55,578	417,004
Small Commercial & Industrial	1,024,748	855,694	1,088,181	859,158	937,544	1,045,488	1,151,680	1,104,980	952,421	909,213	933,929	974,955	11,837,992
Large Commercial & Industrial	530,422	495,545	586,193	543,953	546,682	549,842	638,512	674,285	612,488	597,568	518,758	559,815	6,854,063
Public Street & Highway Lighting	11,701	9,638	9,221	7,552	6,158	5,168	4,735	5,552	6,682	8,285	9,544	11,092	95,328
Other Sales to Public Authority	4,432	3,772	4,816	4,227	3,888	5,117	5,913	7,023	6,080	4,996	3,989	4,298	58,550
Interdepartmental	310	544	554	292	375	935	609	601	883	595	412	447	6,558
Total Retail	2,379,860	2,002,348	2,338,050	1,966,488	2,108,702	2,364,516	2,719,657	2,634,915	2,197,921	2,103,908	2,081,167	2,297,783	27,195,314

Number of Customers

	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Dec-25	2025 Average
Residential without Space Heat	1,165,804	1,166,546	1,167,470	1,167,701	1,167,629	1,166,988	1,166,867	1,167,871	1,168,301	1,169,988	1,170,819	1,171,883	1,168,156
Residential with Space Heat	40,356	40,394	40,461	40,528	40,594	40,643	40,692	40,741	40,815	40,890	40,964	41,026	40,675
Small Commercial & Industrial	136,525	136,643	136,762	136,880	136,999	137,118	137,236	137,355	137,473	137,592	137,710	137,829	137,177
Large Commercial & Industrial	497	497	497	497	497	497	497	497	497	497	497	497	497
Public Street & Highway Lighting	5,953	5,960	5,968	5,975	5,983	5,990	5,998	6,005	6,013	6,020	6,028	6,035	5,994
Other Sales to Public Authority	1,474	1,473	1,473	1,473	1,473	1,472	1,472	1,471	1,471	1,471	1,471	1,471	1,472
Interdepartmental	5	5	5	5	5	5	5	5	5	5	5	5	5
Total Retail	1,350,614	1,351,518	1,352,636	1,353,059	1,353,180	1,352,713	1,352,767	1,353,945	1,354,575	1,356,463	1,357,494	1,358,746	1,353,976

ref2020.d112119a

Report Annual Energy Outlook 2020
Scenario ref2020 Reference case
Datekey d112119a
Release Date January 2020

4. Residential Sector Key Indicators and Consumption

(quadrillion Btu, unless otherwise noted)

Key Indicators and Consumption	2019	2020	2021	2022	2023	2024	2025	2019-2025 Avg
Key Indicators								
Households (millions)								
Total	**120.92**	**121.68**	**122.49**	**123.33**	**124.15**	**124.97**	**125.79**	
Delivered Energy Consumption by Fuel								
Purchased Electricity								
Space Heating	0.71	0.70	0.68	0.67	0.66	0.66	0.65	
per HH	0.00589	0.00575	0.00554	0.00545	0.00536	0.00526	0.00516	-2.2%
Space Cooling	0.77	0.69	0.81	0.82	0.83	0.84	0.85	
per HH	0.00639	0.00571	0.00661	0.00667	0.00670	0.00672	0.00673	0.9%
Water Heating	0.59	0.60	0.60	0.60	0.60	0.59	0.59	
per HH	0.00490	0.00490	0.00487	0.00484	0.00480	0.00476	0.00470	-0.7%
Refrigeration	0.29	0.29	0.29	0.29	0.29	0.28	0.28	
per HH	0.00244	0.00241	0.00237	0.00234	0.00231	0.00228	0.00225	-1.4%
Cooking	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
per HH	0.00045	0.00044	0.00044	0.00044	0.00044	0.00044	0.00044	-0.3%
Clothes Dryers	0.21	0.21	0.22	0.22	0.22	0.22	0.23	
per HH	0.00172	0.00175	0.00176	0.00177	0.00178	0.00179	0.00179	0.7%
Freezers	0.07	0.07	0.07	0.07	0.07	0.07	0.07	
per HH	0.00057	0.00056	0.00055	0.00055	0.00054	0.00053	0.00053	-1.1%
Lighting	0.26	0.24	0.23	0.23	0.22	0.22	0.22	
per HH	0.00212	0.00196	0.00188	0.00183	0.00178	0.00175	0.00173	-3.4%
Clothes Washers 1/	0.04	0.04	0.04	0.04	0.04	0.04	0.04	
per HH	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.0%
Dishwashers 1/	0.03	0.03	0.03	0.03	0.03	0.03	0.03	
per HH	0.00021	0.00022	0.00022	0.00022	0.00022	0.00022	0.00022	0.7%
Televisions and Related Equipment 2/	0.21	0.20	0.20	0.20	0.20	0.19	0.19	
per HH	0.00172	0.00168	0.00164	0.00161	0.00157	0.00154	0.00152	-2.0%
Computers and Related Equipment 3/	0.09	0.08	0.08	0.08	0.08	0.08	0.07	
per HH	0.00072	0.00070	0.00067	0.00065	0.00062	0.00060	0.00058	-3.6%
Furnace Fans and Boiler Circulation Pumps	0.09	0.08	0.08	0.08	0.08	0.08	0.08	
per HH	0.00072	0.00068	0.00066	0.00066	0.00066	0.00065	0.00065	-1.7%
Other Uses 4/	1.50	1.53	1.55	1.56	1.56	1.56	1.56	
per HH	0.01239	0.01259	0.01269	0.01263	0.01255	0.01248	0.01241	0.0%
Delivered Energy	**4.90**	**4.82**	**4.93**	**4.93**	**4.92**	**4.91**	**4.91**	
per HH	0.04054	0.03964	0.04022	0.03996	0.03963	0.03932	0.03900	-0.6%

1/ Does not include water heating portion of load.

2/ Includes televisions, set-top boxes, home theater systems, DVD and Blu-ray players, and video game consoles.

3/ Includes desktop and laptop computers, monitors, and networking equipment.

4/ Includes electric and electronic devices, heating elements, and motors not listed above. Electric vehicles are included in the transportation sector.

Btu = British thermal unit.

- - = Not applicable.

Note: Totals may not equal sum of components due to independent rounding.

Sources: 2019: U.S. Energy Information Administration (EIA), Short-Term Energy Outlook, October 2019 and EIA, AEO2020 National Energy Modeling System run ref2020.d112119a. Projections: EIA, AEO2020 National Energy Modeling System run ref2020.d112119a.

ref2020.d112119a

Report Annual Energy Outlook 2020
Scenario ref2020 Reference case
Datekey d112119a
Release Date January 2020

5. Commercial Sector Key Indicators and Consumption

(quadrillion Btu, unless otherwise noted)

Key Indicators and Consumption	2019	2020	2021	2022	2023	2024	2025	2019-2025 Avg
Key Indicators								
Total Floorspace (billion square feet)								
Total	**92.8**	**93.9**	**95.0**	**96.0**	**97.0**	**97.9**	**98.9**	
Delivered Energy Consumption by Fuel								
Purchased Electricity								
Space Heating 1/	0.12	0.12	0.12	0.12	0.12	0.12	0.11	
Per SqFt	0.0013	0.0013	0.0012	0.0012	0.0012	0.0012	0.0012	-2.4%
Space Cooling 1/	0.53	0.48	0.53	0.53	0.53	0.53	0.53	
Per SqFt	0.0057	0.0051	0.0056	0.0055	0.0055	0.0054	0.0054	-0.9%
Water Heating 1/	0.03	0.03	0.03	0.03	0.02	0.02	0.02	
Per SqFt	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0002	-2.1%
Ventilation	0.52	0.52	0.52	0.51	0.51	0.51	0.51	
Per SqFt	0.0056	0.0055	0.0054	0.0054	0.0053	0.0052	0.0051	-1.3%
Cooking	0.09	0.09	0.09	0.09	0.09	0.09	0.09	
Per SqFt	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	-1.1%
Lighting	0.48	0.47	0.46	0.45	0.44	0.44	0.43	
Per SqFt	0.0052	0.0050	0.0048	0.0047	0.0046	0.0045	0.0043	-2.9%
Refrigeration	0.66	0.66	0.66	0.66	0.66	0.66	0.66	
Per SqFt	0.0071	0.0071	0.0070	0.0069	0.0068	0.0068	0.0067	-1.0%
Computing	0.33	0.33	0.33	0.32	0.32	0.32	0.32	
Per SqFt	0.0036	0.0035	0.0034	0.0034	0.0033	0.0032	0.0032	-1.9%
Office Equipment	0.41	0.44	0.46	0.48	0.50	0.51	0.53	
Per SqFt	0.0044	0.0046	0.0048	0.0050	0.0051	0.0052	0.0054	3.2%
Other Uses 2/	1.49	1.53	1.56	1.59	1.61	1.62	1.63	
Per SqFt	0.0161	0.0163	0.0164	0.0166	0.0166	0.0166	0.0165	0.5%
Delivered Energy	**4.65**	**4.65**	**4.74**	**4.78**	**4.80**	**4.82**	**4.84**	
Per SqFt	0.0501	0.0496	0.0500	0.0498	0.0495	0.0492	0.0489	-0.4%

1/ Includes fuel consumption for district services.

2/ Includes (but is not limited to) miscellaneous uses such as transformers, medical imaging and other medical equipment, elevators, escalators, off-road electric vehicles, laboratory fume hoods, laundry equipment, coffee brewers, and water services.

Btu = British thermal unit.

- - = Not applicable.

Note: Totals may not equal sum of components due to independent rounding.

Sources: 2019: U.S. Energy Information Administration (EIA), Short-Term Energy Outlook, October 2019 and EIA, AEO2020 National Energy Modeling System run ref2020.d112119a. Projections: EIA, AEO2020 National Energy Modeling System run ref2020.d112119a.

Exogenous Adjustments to the Forecast

Continuing Historical DSM Adjustment, MWh

	Residential without Space Heat	Residential with Space Heat	Small C&I	Large C&I	Total
2021	-877,633	-45,329	-2,829,967	-1,694,155	-5,447,084
2022	-765,306	-39,528	-2,653,262	-1,588,371	-5,046,466
2023	-652,979	-33,726	-2,576,849	-1,542,626	-4,806,179
2024	-540,639	-27,924	-2,478,657	-1,483,843	-4,531,063
2025	-428,325	-22,123	-2,266,184	-1,356,647	-4,073,278
Jan-21	-74,032	-3,824	-227,400	-136,132	-441,388
Feb-21	-68,891	-3,558	-233,241	-139,629	-445,319
Mar-21	-71,424	-3,689	-225,441	-134,960	-435,514
Apr-21	-67,848	-3,504	-224,304	-134,279	-429,936
May-21	-57,935	-2,992	-234,878	-140,609	-436,415
Jun-21	-63,506	-3,280	-232,116	-138,956	-437,857
Jul-21	-88,429	-4,567	-244,424	-146,324	-483,745
Aug-21	-107,978	-5,577	-253,061	-151,495	-518,111
Sep-21	-75,712	-3,910	-239,178	-143,184	-461,984
Oct-21	-64,604	-3,337	-242,108	-144,937	-454,986
Nov-21	-65,177	-3,366	-243,846	-145,978	-458,368
Dec-21	-72,096	-3,724	-229,971	-137,672	-443,462
Jan-22	-64,557	-3,334	-213,200	-127,632	-408,723
Feb-22	-60,074	-3,103	-218,678	-130,911	-412,766
Mar-22	-62,282	-3,217	-211,364	-126,533	-403,396
Apr-22	-59,164	-3,056	-210,299	-125,895	-398,414
May-22	-50,521	-2,609	-220,212	-131,830	-405,172
Jun-22	-55,378	-2,860	-217,621	-130,278	-406,137
Jul-22	-77,111	-3,983	-229,159	-137,186	-447,439
Aug-22	-94,158	-4,863	-237,260	-142,035	-478,316
Sep-22	-66,022	-3,410	-224,245	-134,244	-427,921
Oct-22	-56,335	-2,910	-226,991	-135,888	-422,124
Nov-22	-56,835	-2,936	-228,622	-136,864	-425,257
Dec-22	-62,869	-3,247	-215,611	-129,075	-410,801
Jan-23	-55,082	-2,845	-207,060	-123,956	-388,943
Feb-23	-51,256	-2,647	-212,381	-127,141	-393,426
Mar-23	-53,141	-2,745	-205,277	-122,889	-384,052
Apr-23	-50,481	-2,607	-204,242	-122,269	-379,600
May-23	-43,105	-2,226	-213,870	-128,033	-387,234
Jun-23	-47,250	-2,440	-211,353	-126,526	-387,569
Jul-23	-65,793	-3,398	-222,558	-133,234	-424,984
Aug-23	-80,338	-4,149	-230,426	-137,944	-452,858
Sep-23	-56,331	-2,909	-217,788	-130,378	-407,406
Oct-23	-48,067	-2,483	-220,454	-131,975	-402,978

Exogenous Adjustments to the Forecast

Continuing Historical DSM Adjustment, MWh

	Residential without Space Heat	Residential with Space Heat	Small C&I	Large C&I	Total
Nov-23	-48,493	-2,505	-222,038	-132,923	-405,958
Dec-23	-53,641	-2,771	-209,401	-125,357	-391,170
Jan-24	-45,478	-2,349	-198,588	-118,884	-365,299
Feb-24	-43,831	-2,264	-210,941	-126,279	-383,315
Mar-24	-43,876	-2,266	-196,876	-117,859	-360,877
Apr-24	-41,679	-2,153	-195,878	-117,262	-356,973
May-24	-35,590	-1,838	-205,115	-122,792	-365,335
Jun-24	-39,011	-2,015	-202,723	-121,360	-365,109
Jul-24	-54,322	-2,806	-213,488	-127,804	-398,420
Aug-24	-66,330	-3,426	-221,005	-132,304	-423,066
Sep-24	-46,510	-2,402	-208,858	-125,032	-382,802
Oct-24	-39,686	-2,050	-211,420	-126,566	-379,721
Nov-24	-40,038	-2,068	-212,929	-127,469	-382,504
Dec-24	-44,288	-2,287	-200,837	-120,231	-367,643
Jan-25	-36,131	-1,866	-182,099	-109,013	-329,109
Feb-25	-33,622	-1,737	-186,756	-111,801	-333,916
Mar-25	-34,858	-1,800	-180,529	-108,073	-325,261
Apr-25	-33,113	-1,710	-179,614	-107,526	-321,963
May-25	-28,275	-1,460	-188,084	-112,596	-330,416
Jun-25	-30,994	-1,601	-185,891	-111,283	-329,769
Jul-25	-43,158	-2,229	-195,763	-117,193	-358,343
Aug-25	-52,698	-2,722	-202,655	-121,319	-379,395
Sep-25	-36,951	-1,909	-191,516	-114,651	-345,027
Oct-25	-31,530	-1,628	-193,865	-116,057	-343,080
Nov-25	-31,809	-1,643	-195,249	-116,886	-345,587
Dec-25	-35,186	-1,817	-184,161	-110,248	-331,413

Exogenous Adjustments to the Forecast

Future DSM Adjustment, MWh

	Residential without Space Heat	Residential with Space Heat	Small C&I	Large C&I	Total
2021	-384,845	-19,877	-447,359	-267,811	-1,119,893
2022	-538,038	-27,789	-720,637	-431,408	-1,717,872
2023	-716,956	-37,030	-1,012,040	-605,856	-2,371,882
2024	-925,465	-47,800	-1,329,670	-796,005	-3,098,939
2025	-1,137,696	-58,761	-1,641,485	-982,672	-3,820,614
Jan-21	-32,463	-1,677	-35,948	-21,520	-91,607
Feb-21	-30,209	-1,560	-36,867	-22,070	-90,707
Mar-21	-31,320	-1,618	-35,638	-21,334	-89,909
Apr-21	-29,752	-1,537	-35,457	-21,226	-87,972
May-21	-25,405	-1,312	-37,129	-22,227	-86,074
Jun-21	-27,847	-1,438	-36,696	-21,968	-87,950
Jul-21	-38,777	-2,003	-38,645	-23,135	-102,559
Aug-21	-47,349	-2,446	-40,006	-23,949	-113,749
Sep-21	-33,200	-1,715	-37,807	-22,633	-95,354
Oct-21	-28,329	-1,463	-38,270	-22,910	-90,973
Nov-21	-28,580	-1,476	-38,543	-23,074	-91,674
Dec-21	-31,614	-1,633	-36,355	-21,764	-91,366
Jan-22	-45,386	-2,344	-57,907	-34,666	-140,302
Feb-22	-42,234	-2,181	-59,388	-35,552	-139,356
Mar-22	-43,787	-2,262	-57,408	-34,367	-137,823
Apr-22	-41,595	-2,148	-57,117	-34,193	-135,052
May-22	-35,518	-1,834	-59,810	-35,805	-132,968
Jun-22	-38,932	-2,011	-59,113	-35,388	-135,444
Jul-22	-54,212	-2,800	-62,252	-37,267	-156,531
Aug-22	-66,197	-3,419	-64,444	-38,579	-172,638
Sep-22	-46,416	-2,397	-60,901	-36,458	-146,173
Oct-22	-39,606	-2,046	-61,648	-36,906	-140,205
Nov-22	-39,957	-2,064	-62,088	-37,169	-141,278
Dec-22	-44,199	-2,283	-58,563	-35,058	-140,103
Jan-23	-60,478	-3,124	-81,322	-48,683	-193,608
Feb-23	-56,279	-2,907	-83,402	-49,929	-192,516
Mar-23	-58,347	-3,014	-80,621	-48,264	-190,246
Apr-23	-55,426	-2,863	-80,213	-48,019	-186,521
May-23	-47,329	-2,444	-83,995	-50,284	-184,052
Jun-23	-51,879	-2,680	-83,016	-49,697	-187,272
Jul-23	-72,240	-3,731	-87,424	-52,336	-215,732
Aug-23	-88,210	-4,556	-90,503	-54,179	-237,447
Sep-23	-61,851	-3,195	-85,528	-51,201	-201,774
Oct-23	-52,776	-2,726	-86,577	-51,829	-193,908

Exogenous Adjustments to the Forecast

Future DSM Adjustment, MWh

	Residential without Space Heat	Residential with Space Heat	Small C&I	Large C&I	Total
Nov-23	-53,244	-2,750	-87,195	-52,199	-195,389
Dec-23	-58,897	-3,042	-82,243	-49,235	-193,417
Jan-24	-77,849	-4,021	-106,532	-63,775	-252,177
Feb-24	-75,030	-3,875	-113,159	-67,742	-259,806
Mar-24	-75,106	-3,879	-105,614	-63,225	-247,824
Apr-24	-71,346	-3,685	-105,079	-62,905	-243,014
May-24	-60,922	-3,147	-110,034	-65,871	-239,974
Jun-24	-66,780	-3,449	-108,750	-65,103	-244,082
Jul-24	-92,988	-4,803	-114,525	-68,560	-280,877
Aug-24	-113,545	-5,865	-118,558	-70,975	-308,942
Sep-24	-79,615	-4,112	-112,041	-67,073	-262,842
Oct-24	-67,934	-3,509	-113,415	-67,896	-252,755
Nov-24	-68,537	-3,540	-114,225	-68,381	-254,683
Dec-24	-75,813	-3,916	-107,738	-64,497	-251,965
Jan-25	-95,969	-4,957	-131,901	-78,963	-311,790
Feb-25	-89,305	-4,613	-135,275	-80,982	-310,175
Mar-25	-92,588	-4,782	-130,764	-78,282	-306,416
Apr-25	-87,953	-4,543	-130,102	-77,885	-300,483
May-25	-75,103	-3,879	-136,237	-81,558	-296,777
Jun-25	-82,324	-4,252	-134,648	-80,607	-301,831
Jul-25	-114,633	-5,921	-141,798	-84,887	-347,240
Aug-25	-139,975	-7,230	-146,791	-87,876	-381,872
Sep-25	-98,147	-5,069	-138,723	-83,046	-324,985
Oct-25	-83,747	-4,326	-140,424	-84,065	-312,562
Nov-25	-84,491	-4,364	-141,426	-84,665	-314,946
Dec-25	-93,460	-4,827	-133,395	-79,857	-311,539

Exogenous Adjustments to the Forecast

DSM Overachievement Adjustment, MWh

	Residential without Space Heat	Residential with Space Heat	Small C&I	Large C&I	Total
2021	-47,500	-2,500	-93,750	-56,250	-200,000
2022	-47,500	-2,500	-93,750	-56,250	-200,000
2023	-47,500	-2,500	-93,750	-56,250	-200,000
2024	-47,500	-2,500	-93,750	-56,250	-200,000
2025	-47,500	-2,500	-93,750	-56,250	-200,000
Jan-21	-4,106	-216	-7,908	-4,745	-16,975
Feb-21	-2,650	-139	-3,445	-2,067	-8,301
Mar-21	-3,961	-208	-7,840	-4,704	-16,713
Apr-21	-3,763	-198	-7,800	-4,680	-16,441
May-21	-3,213	-169	-8,168	-4,901	-16,451
Jun-21	-3,522	-185	-8,073	-4,844	-16,623
Jul-21	-4,904	-258	-8,502	-5,101	-18,765
Aug-21	-5,988	-315	-8,801	-5,281	-20,384
Sep-21	-4,199	-221	-8,317	-4,990	-17,727
Oct-21	-3,583	-189	-8,419	-5,052	-17,242
Nov-21	-3,615	-190	-8,479	-5,088	-17,372
Dec-21	-3,998	-210	-7,998	-4,799	-17,005
Jan-22	-4,106	-216	-7,908	-4,745	-16,975
Feb-22	-2,650	-139	-3,445	-2,067	-8,301
Mar-22	-3,961	-208	-7,840	-4,704	-16,713
Apr-22	-3,763	-198	-7,800	-4,680	-16,441
May-22	-3,213	-169	-8,168	-4,901	-16,451
Jun-22	-3,522	-185	-8,073	-4,844	-16,623
Jul-22	-4,904	-258	-8,502	-5,101	-18,765
Aug-22	-5,988	-315	-8,801	-5,281	-20,384
Sep-22	-4,199	-221	-8,317	-4,990	-17,727
Oct-22	-3,583	-189	-8,419	-5,052	-17,242
Nov-22	-3,615	-190	-8,479	-5,088	-17,372
Dec-22	-3,998	-210	-7,998	-4,799	-17,005
Jan-23	-4,106	-216	-7,908	-4,745	-16,975
Feb-23	-2,650	-139	-3,445	-2,067	-8,301
Mar-23	-3,961	-208	-7,840	-4,704	-16,713
Apr-23	-3,763	-198	-7,800	-4,680	-16,441
May-23	-3,213	-169	-8,168	-4,901	-16,451
Jun-23	-3,522	-185	-8,073	-4,844	-16,623
Jul-23	-4,904	-258	-8,502	-5,101	-18,765
Aug-23	-5,988	-315	-8,801	-5,281	-20,384
Sep-23	-4,199	-221	-8,317	-4,990	-17,727
Oct-23	-3,583	-189	-8,419	-5,052	-17,242

Exogenous Adjustments to the Forecast

DSM Overachievement Adjustment, MWh

	Residential without Space Heat	Residential with Space Heat	Small C&I	Large C&I	Total
Nov-23	-3,615	-190	-8,479	-5,088	-17,372
Dec-23	-3,998	-210	-7,998	-4,799	-17,005
Jan-24	-4,106	-216	-7,908	-4,745	-16,975
Feb-24	-2,650	-139	-3,445	-2,067	-8,301
Mar-24	-3,961	-208	-7,840	-4,704	-16,713
Apr-24	-3,763	-198	-7,800	-4,680	-16,441
May-24	-3,213	-169	-8,168	-4,901	-16,451
Jun-24	-3,522	-185	-8,073	-4,844	-16,623
Jul-24	-4,904	-258	-8,502	-5,101	-18,765
Aug-24	-5,988	-315	-8,801	-5,281	-20,384
Sep-24	-4,199	-221	-8,317	-4,990	-17,727
Oct-24	-3,583	-189	-8,419	-5,052	-17,242
Nov-24	-3,615	-190	-8,479	-5,088	-17,372
Dec-24	-3,998	-210	-7,998	-4,799	-17,005
Jan-25	-4,106	-216	-7,908	-4,745	-16,975
Feb-25	-2,650	-139	-3,445	-2,067	-8,301
Mar-25	-3,961	-208	-7,840	-4,704	-16,713
Apr-25	-3,763	-198	-7,800	-4,680	-16,441
May-25	-3,213	-169	-8,168	-4,901	-16,451
Jun-25	-3,522	-185	-8,073	-4,844	-16,623
Jul-25	-4,904	-258	-8,502	-5,101	-18,765
Aug-25	-5,988	-315	-8,801	-5,281	-20,384
Sep-25	-4,199	-221	-8,317	-4,990	-17,727
Oct-25	-3,583	-189	-8,419	-5,052	-17,242
Nov-25	-3,615	-190	-8,479	-5,088	-17,372
Dec-25	-3,998	-210	-7,998	-4,799	-17,005

Exogenous Adjustments to the Forecast

Reduction for IVVO, MWh

	Residential without Space Heat	Residential with Space Heat	Small C&I	Large C&I	Total
2021	0	0	0	0	0
2022	0	0	0	0	0
2023	0	0	0	0	0
2024	-1,068	-53	-1,677	-724	-3,522
2025	-2,610	-129	-4,098	-1,769	-8,606
Jan-21	0	0	0	0	0
Feb-21	0	0	0	0	0
Mar-21	0	0	0	0	0
Apr-21	0	0	0	0	0
May-21	0	0	0	0	0
Jun-21	0	0	0	0	0
Jul-21	0	0	0	0	0
Aug-21	0	0	0	0	0
Sep-21	0	0	0	0	0
Oct-21	0	0	0	0	0
Nov-21	0	0	0	0	0
Dec-21	0	0	0	0	0
Jan-22	0	0	0	0	0
Feb-22	0	0	0	0	0
Mar-22	0	0	0	0	0
Apr-22	0	0	0	0	0
May-22	0	0	0	0	0
Jun-22	0	0	0	0	0
Jul-22	0	0	0	0	0
Aug-22	0	0	0	0	0
Sep-22	0	0	0	0	0
Oct-22	0	0	0	0	0
Nov-22	0	0	0	0	0
Dec-22	0	0	0	0	0
Jan-23	0	0	0	0	0
Feb-23	0	0	0	0	0
Mar-23	0	0	0	0	0
Apr-23	0	0	0	0	0
May-23	0	0	0	0	0
Jun-23	0	0	0	0	0
Jul-23	0	0	0	0	0
Aug-23	0	0	0	0	0
Sep-23	0	0	0	0	0

Exogenous Adjustments to the Forecast

Reduction for IVVO, MWh

	Residential without Space Heat	Residential with Space Heat	Small C&I	Large C&I	Total
Oct-23	0	0	0	0	0
Nov-23	0	0	0	0	0
Dec-23	0	0	0	0	0
Jan-24	-98	-5	-154	-66	-323
Feb-24	-81	-4	-127	-55	-267
Mar-24	-92	-5	-145	-62	-304
Apr-24	-82	-4	-129	-56	-271
May-24	-79	-4	-124	-53	-260
Jun-24	-84	-4	-131	-57	-276
Jul-24	-103	-5	-162	-70	-340
Aug-24	-106	-5	-167	-72	-350
Sep-24	-94	-5	-147	-63	-309
Oct-24	-88	-4	-138	-60	-290
Nov-24	-73	-4	-114	-49	-240
Dec-24	-89	-4	-140	-60	-294
Jan-25	-239	-12	-375	-162	-788
Feb-25	-198	-10	-310	-134	-652
Mar-25	-225	-11	-353	-153	-742
Apr-25	-201	-10	-315	-136	-662
May-25	-193	-10	-302	-130	-635
Jun-25	-204	-10	-321	-138	-673
Jul-25	-252	-12	-395	-171	-830
Aug-25	-259	-13	-407	-176	-855
Sep-25	-229	-11	-359	-155	-754
Oct-25	-215	-11	-338	-146	-710
Nov-25	-178	-9	-279	-120	-586
Dec-25	-218	-11	-342	-148	-718

Exogenous Adjustments to the Forecast

Reduction for Behind-the-Meter Solar Generation, MWh

	Residential without Space Heat	Residential with Space Heat	Small C&I	Large C&I	Total
2021	-61,183	-3,767	-62,157	-4,712	-131,818
2022	-75,818	-4,692	-70,596	-5,184	-156,291
2023	-89,039	-5,513	-78,983	-5,691	-179,227
2024	-102,157	-6,319	-87,712	-6,239	-202,427
2025	-115,316	-7,125	-96,547	-6,796	-225,784
Jan-21	-3,530	-216	-3,798	-224	-7,768
Feb-21	-4,133	-253	-4,393	-304	-9,084
Mar-21	-4,938	-303	-5,194	-412	-10,847
Apr-21	-5,630	-346	-5,861	-499	-12,336
May-21	-6,150	-378	-6,341	-560	-13,428
Jun-21	-6,354	-391	-6,487	-574	-13,805
Jul-21	-6,271	-387	-6,340	-547	-13,545
Aug-21	-5,734	-354	-5,739	-460	-12,287
Sep-21	-5,181	-320	-5,131	-373	-11,005
Oct-21	-4,648	-287	-4,555	-292	-9,783
Nov-21	-4,268	-264	-4,138	-232	-8,902
Dec-21	-4,345	-268	-4,180	-234	-9,028
Jan-22	-4,545	-281	-4,350	-254	-9,430
Feb-22	-5,279	-326	-5,025	-338	-10,969
Mar-22	-6,263	-387	-5,934	-452	-13,036
Apr-22	-7,091	-439	-6,685	-544	-14,760
May-22	-7,696	-476	-7,221	-608	-16,002
Jun-22	-7,900	-489	-7,377	-623	-16,389
Jul-22	-7,747	-480	-7,199	-596	-16,022
Aug-22	-7,037	-436	-6,504	-504	-14,482
Sep-22	-6,315	-391	-5,804	-412	-12,922
Oct-22	-5,626	-349	-5,142	-326	-11,443
Nov-22	-5,127	-318	-4,659	-262	-10,366
Dec-22	-5,190	-321	-4,695	-264	-10,470
Jan-23	-5,411	-335	-4,880	-285	-10,911
Feb-23	-6,266	-388	-5,633	-374	-12,660
Mar-23	-7,416	-459	-6,648	-494	-15,016
Apr-23	-8,376	-519	-7,486	-592	-16,973
May-23	-9,070	-562	-8,085	-660	-18,376
Jun-23	-9,291	-575	-8,257	-677	-18,799
Jul-23	-9,092	-563	-8,056	-648	-18,359
Aug-23	-8,239	-510	-7,276	-551	-16,577
Sep-23	-7,374	-457	-6,489	-454	-14,775

Exogenous Adjustments to the Forecast

Reduction for Behind-the-Meter Solar Generation, MWh

	Residential without Space Heat	Residential with Space Heat	Small C&I	Large C&I	Total
Oct-23	-6,553	-406	-5,746	-363	-13,068
Nov-23	-5,952	-368	-5,200	-296	-11,816
Dec-23	-6,001	-371	-5,227	-297	-11,895
Jan-24	-6,358	-393	-5,526	-329	-12,607
Feb-24	-7,350	-455	-6,372	-425	-14,602
Mar-24	-8,558	-529	-7,404	-542	-17,033
Apr-24	-9,645	-597	-8,327	-645	-19,213
May-24	-10,417	-644	-8,977	-715	-20,754
Jun-24	-10,639	-658	-9,148	-731	-21,176
Jul-24	-10,383	-642	-8,908	-700	-20,633
Aug-24	-9,387	-581	-8,034	-597	-18,599
Sep-24	-8,385	-519	-7,157	-495	-16,556
Oct-24	-7,441	-460	-6,333	-399	-14,633
Nov-24	-6,758	-418	-5,736	-329	-13,241
Dec-24	-6,837	-422	-5,789	-333	-13,381
Jan-25	-7,126	-440	-6,024	-357	-13,946
Feb-25	-8,230	-508	-6,944	-457	-16,139
Mar-25	-9,713	-600	-8,182	-591	-19,085
Apr-25	-10,935	-676	-9,196	-700	-21,507
May-25	-11,801	-729	-9,909	-775	-23,215
Jun-25	-12,043	-744	-10,095	-792	-23,674
Jul-25	-11,743	-726	-9,826	-759	-23,054
Aug-25	-10,606	-656	-8,858	-650	-20,770
Sep-25	-9,463	-585	-7,886	-542	-18,476
Oct-25	-8,386	-518	-6,973	-440	-16,317
Nov-25	-7,603	-469	-6,306	-366	-14,744
Dec-25	-7,667	-473	-6,348	-368	-14,857

Exogenous Adjustments to the Forecast

Electric Vehicle Charging, MWh

	Residential without Space Heat	Residential with Space Heat	Small C&I	Large C&I	Total
2021	12,392	410	909	1,874	15,585
2022	25,334	852	1,863	3,768	31,816
2023	53,526	1,825	4,342	7,402	67,095
2024	91,243	3,146	8,442	16,876	119,707
2025	125,430	4,369	13,503	32,087	175,388
Jan-21	616	20	45	106	787
Feb-21	692	23	51	115	880
Mar-21	767	25	56	124	973
Apr-21	843	28	62	133	1,066
May-21	919	30	67	143	1,159
Jun-21	995	33	73	152	1,252
Jul-21	1,071	35	79	161	1,345
Aug-21	1,146	38	84	170	1,438
Sep-21	1,222	41	90	179	1,531
Oct-21	1,298	43	95	188	1,624
Nov-21	1,374	46	101	197	1,717
Dec-21	1,450	48	106	206	1,810
Jan-22	1,551	52	114	223	1,940
Feb-22	1,653	55	121	239	2,069
Mar-22	1,755	59	129	256	2,198
Apr-22	1,857	62	137	272	2,328
May-22	1,959	66	144	289	2,457
Jun-22	2,060	69	152	306	2,587
Jul-22	2,162	73	159	322	2,716
Aug-22	2,264	76	167	339	2,845
Sep-22	2,366	80	174	355	2,975
Oct-22	2,467	83	181	372	3,104
Nov-22	2,569	87	189	389	3,234
Dec-22	2,671	90	196	405	3,363
Jan-23	2,946	100	222	438	3,706
Feb-23	3,222	109	247	470	4,049
Mar-23	3,497	118	273	503	4,391
Apr-23	3,772	128	298	535	4,734
May-23	4,048	138	324	568	5,077
Jun-23	4,323	147	349	600	5,420
Jul-23	4,598	157	375	633	5,763
Aug-23	4,873	166	400	666	6,105
Sep-23	5,149	176	425	698	6,448
Oct-23	5,424	186	451	731	6,791
Nov-23	5,699	195	476	764	7,134
Dec-23	5,974	205	501	796	7,477
Jan-24	6,225	213	532	890	7,861
Feb-24	6,476	222	564	984	8,246
Mar-24	6,727	231	595	1,078	8,630

Exogenous Adjustments to the Forecast

Electric Vehicle Charging, MWh

	Residential without Space Heat	Residential with Space Heat	Small C&I	Large C&I	Total
Apr-24	6,977	240	626	1,172	9,014
May-24	7,228	249	657	1,266	9,399
Jun-24	7,478	258	688	1,359	9,783
Jul-24	7,729	267	719	1,453	10,168
Aug-24	7,979	275	750	1,547	10,552
Sep-24	8,230	284	781	1,641	10,937
Oct-24	8,481	293	812	1,735	11,321
Nov-24	8,731	302	844	1,829	11,706
Dec-24	8,982	311	875	1,922	12,090
Jan-25	9,209	319	913	2,038	12,479
Feb-25	9,435	327	952	2,154	12,867
Mar-25	9,661	335	990	2,269	13,256
Apr-25	9,887	343	1,029	2,385	13,644
May-25	10,113	352	1,067	2,501	14,033
Jun-25	10,339	360	1,106	2,616	14,421
Jul-25	10,565	368	1,144	2,732	14,810
Aug-25	10,792	376	1,183	2,847	15,199
Sep-25	11,018	385	1,222	2,963	15,587
Oct-25	11,244	393	1,260	3,079	15,976
Nov-25	11,470	401	1,299	3,194	16,364
Dec-25	11,696	409	1,338	3,309	16,753

Exogenous Adjustments to the Forecast

Adjustments for New Load Additions and Reductions, MWh

[Protected Data Begins

	Customer A	Customer B	Customer C	Customer D	Customer E	Customer F	Customer G	Customer H	Customer I	Customer J	Customer K	Total
2021												0
2022												0
2023												0
2024												0
2025												0
Jan-21												0
Feb-21												0
Mar-21												0
Apr-21												0
May-21												0
Jun-21												0
Jul-21												0
Aug-21												0
Sep-21												0
Oct-21												0
Nov-21												0
Dec-21												0
Jan-22												0
Feb-22												0
Mar-22												0
Apr-22												0
May-22												0
Jun-22												0
Jul-22												0
Aug-22												0
Sep-22												0
Oct-22												0
Nov-22												0
Dec-22												0
Jan-23												0
Feb-23												0
Mar-23												0
Apr-23												0
May-23												0
Jun-23												0
Jul-23												0
Aug-23												0
Sep-23												0
Oct-23												0
Nov-23												0
Dec-23												0
Jan-24												0
Feb-24												0
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Oct-24												0
Nov-24												0
Dec-24												0
Jan-25												0
Feb-25												0
Mar-25												0
Apr-25												0
May-25												0
Jun-25												0
Jul-25												0
Aug-25												0
Sep-25												0
Oct-25												0
Nov-25												0
Dec-25												0

Protected Data Ends]

Xcel Energy Minnesota Residential without Space Heat
Test Year 2021-2025 MWh Electric Sales

Variable	Coefficient	StdErr	T-Stat	P-Value	Definition
CYPNR_MN	2854.089	408.830	6.981	0.00%	Real Personal Income per Capita, Minnesota, millions 2012$, Bureau of Economic Analysis
BillDaysCellnet21	14031.144	640.780	21.897	0.00%	Average number of billing days per month
Dec2016	-40417.254	14761.866	-2.738	0.68%	Binary variable December 2016=1, otherwise=0
H65_bill_RX_MN_Jan	0.000	0.000	31095.313	0.00%	Heating Degree Days*Number Residential without Space Heat Customers, January
H65_bill_RX_MN_Feb	0.000	0.000	25.551	0.00%	Heating Degree Days*Number Residential without Space Heat Customers, February
H65_bill_RX_MN_Mar	0.000	0.000	20.002	0.00%	Heating Degree Days*Number Residential without Space Heat Customers, March
H65_bill_RX_MN_Apr	0.000	0.000	8.556	0.00%	Heating Degree Days*Number Residential without Space Heat Customers, April
H65_bill_RX_MN_Oct	0.000	0.000	3.056	0.26%	Heating Degree Days*Number Residential without Space Heat Customers, October
H65_bill_RX_MN_Nov	0.000	0.000	7.201	0.00%	Heating Degree Days*Number Residential without Space Heat Customers, November
H65_bill_RX_MN_Dec	0.000	0.000	22.118	0.00%	Heating Degree Days*Number Residential without Space Heat Customers, December
T65_bill_RX_MN_May	0.001	0.001	1.695	9.18%	THI Degree Days*Number Residential without Space Heat Customers, May
T65_bill_RX_MN_Jun	0.002	0.000	21.822	0.00%	THI Degree Days*Number Residential without Space Heat Customers, June
T65_bill_RX_MN_Jul	0.002	0.000	56.570	0.00%	THI Degree Days*Number Residential without Space Heat Customers, July
T65_bill_RX_MN_Aug	0.002	0.000	64.038	0.00%	THI Degree Days*Number Residential without Space Heat Customers, August
T65_bill_RX_MN_Sep	0.002	0.000	35.469	0.00%	THI Degree Days*Number Residential without Space Heat Customers, September
T65_bill_RX_MN_Oct	0.002	0.000	8.590	0.00%	THI Degree Days*Number Residential without Space Heat Customers, October
Sep2013	-51883.017	16624.636	-3.121	0.21%	Binary variable September 2013=1, otherwise=0
PostOct08	23916.673	4991.612	4.791	0.00%	Binary variable beginning November 2008=1, otherwise=0
COVID_19_Impacts_Apr2(	39673.125	14522.268	2.732	0.69%	Limited interval trend variable (April 2020 through December 2025) to account for COVID-19 pandemic impacts
AR(1)	0.472	0.066	7.210	0.00%	First order autoregressive correction term

Dependent Variable					Definition
SLS_Reswo_MN					Minnesota Demand Side Management adjusted Billed Sales (MWh) for the Residential without Space Heat customer class.

HDD65 = Heating Degree Days base 65
THI65 = Temperature-humidity Index base 65

Xcel Energy Minnesota Residential without Space Heat
Test Year 2021-2025 MWh Electric Sales

Model Statistics		
Iterations		13
Adjusted Observations		208
Deg. of Freedom for Error		188
R-Squared		0.987
Adjusted R-Squared		0.986
AIC		19.444
BIC		19.765
F-Statistic	#NA	
Prob (F-Statistic)	#NA	
Log-Likelihood		-2,297.29
Model Sum of Squares		3,652,356,787,599.37
Sum of Squared Errors		47,739,603,932.73
Mean Squared Error		253,934,063.47
Std. Error of Regression		15,935.31
Mean Abs. Dev. (MAD)		11,586.45
Mean Abs. % Err. (MAPE)		1.56%
Durbin-Watson Statistic		2.025
Durbin-H Statistic	#NA	
Ljung-Box Statistic		27.97
Prob (Ljung-Box)		0.2614
Skewness		0.001
Kurtosis		3.248
Jarque-Bera		0.531
Prob (Jarque-Bera)		0.7667

Forecast Statistics	
Forecast Observations	0
Mean Abs. Dev. (MAD)	0.00
Mean Abs. % Err. (MAPE)	0.00%
31095.31293	0.00
Mean % Error	0.00%
Root Mean-Square Error	0.00
Theil's Inequality Coefficient	0.0000
-- Bias Proportion	0.00%
-- Variance Proportion	0.00%
-- Covariance Proportion	0.00%

Xcel Energy Minnesota Residential without Space Heat
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2003	1	762,313.154				
2003	2	666,883.554	682,884.154	-16,000.600	-2.40%	-1.004
2003	3	622,637.263	644,016.013	-21,378.751	-3.43%	-1.342
2003	4	561,137.361	31,095.313	-8,900.841	-1.59%	-0.559
2003	5	533,569.076	542,265.086	-8,696.010	-1.63%	-0.546
2003	6	583,808.452	591,993.879	-8,185.427	-1.40%	-0.514
2003	7	817,122.392	804,795.000	12,327.392	1.51%	0.774
2003	8	878,445.446	881,469.539	-3,024.093	-0.34%	-0.190
2003	9	851,805.593	854,775.440	-2,969.848	-0.35%	-0.186
2003	10	577,454.524	593,437.358	-15,982.834	-2.77%	-1.003
2003	11	578,742.878	577,092.132	1,650.746	0.29%	0.104
2003	12	726,448.041	726,040.332	407.709	0.06%	0.026
2004	1	783,505.213	811,030.726	-27,525.513	-3.51%	-1.727
2004	2	687,774.696	697,595.286	-9,820.590	-1.43%	-0.616
2004	3	609,144.393	625,775.635	-16,631.243	-2.73%	-1.044
2004	4	570,284.935	581,185.904	-10,900.969	-1.91%	-0.684
2004	5	532,382.660	541,366.502	-8,983.842	-1.69%	-0.564
2004	6	611,528.920	606,414.784	5,114.136	0.84%	0.321
2004	7	740,696.986	748,490.770	-7,793.783	-1.05%	-0.489
2004	8	758,784.600	752,920.679	5,863.921	0.77%	0.368
2004	9	704,564.541	714,560.332	-9,995.791	-1.42%	-0.627
2004	10	619,575.857	609,173.140	10,402.717	1.68%	0.653
2004	11	590,835.346	588,732.712	2,102.634	0.36%	0.132
2004	12	732,597.571	724,077.691	8,519.880	1.16%	0.535
2005	1	834,010.752	842,586.735	-8,575.983	-1.03%	-0.538
2005	2	623,689.616	649,705.918	-26,016.302	-4.17%	-1.633
2005	3	645,799.903	666,033.349	-20,233.445	-3.13%	-1.270
2005	4	603,804.722	577,344.259	26,460.464	4.38%	1.660
2005	5	532,312.324	550,788.584	-18,476.260	-3.47%	-1.159
2005	6	692,135.173	691,815.091	320.082	0.05%	0.020
2005	7	922,377.535	899,555.580	22,821.955	2.47%	1.432
2005	8	1,040,829.930	1,021,843.529	18,986.401	1.82%	1.191
2005	9	752,346.158	748,444.103	3,902.055	0.52%	0.245
2005	10	624,893.328	632,739.184	-7,845.856	-1.26%	-0.492
2005	11	568,795.041	566,739.134	2,055.907	0.36%	0.129
2005	12	719,268.285	709,759.118	9,509.167	1.32%	0.597
2006	1	789,389.024	794,563.295	-5,174.271	-0.66%	-0.325
2006	2	623,062.690	646,296.851	-23,234.161	-3.73%	-1.458
2006	3	688,383.151	689,040.947	-657.796	-0.10%	-0.041
2006	4	552,152.675	543,812.606	8,340.069	1.51%	0.523
2006	5	551,574.634	584,220.590	-32,645.956	-5.92%	-2.049
2006	6	782,271.861	752,114.684	30,157.177	3.86%	1.892
2006	7	868,474.787	852,073.054	16,401.733	1.89%	1.029
2006	8	1,100,250.072	1,109,431.292	-9,181.220	-0.83%	-0.576
2006	9	702,139.977	672,052.660	30,087.316	4.29%	1.888
2006	10	615,872.133	621,662.269	-5,790.136	-0.94%	-0.363
2006	11	597,142.014	587,916.451	9,225.563	1.54%	0.579
2006	12	675,724.638	667,862.528	7,862.111	1.16%	0.493
2007	1	838,177.966	822,903.552	15,274.414	1.82%	0.959
2007	2	696,182.500	703,069.198	-6,886.698	-0.99%	-0.432
2007	3	686,994.562	682,828.510	4,166.052	0.61%	0.261
2007	4	586,900.933	587,187.270	-286.337	-0.05%	-0.018
2007	5	583,646.487	589,447.000	-5,800.513	-0.99%	-0.364

Xcel Energy Minnesota Residential without Space Heat
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2007	6	708,726.979	708,806.441	-79.463	-0.01%	-0.005
2007	7	917,039.075	887,456.424	29,582.651	3.23%	1.856
2007	8	1,026,588.165	1,015,178.467	11,409.698	1.11%	0.716
2007	9	731,757.166	742,155.477	-10,398.311	-1.42%	-0.653
2007	10	692,207.462	685,212.324	6,995.138	1.01%	0.439
2007	11	593,815.348	580,510.037	13,305.311	2.24%	0.835
2007	12	707,590.220	701,208.611	6,381.608	0.90%	0.400
2008	1	859,522.898	877,636.309	-18,113.411	-2.11%	-1.137
2008	2	730,845.491	715,079.467	15,766.023	2.16%	0.989
2008	3	661,207.147	664,512.062	-3,304.914	-0.50%	-0.207
2008	4	644,532.783	637,579.440	6,953.343	1.08%	0.436
2008	5	553,970.002	554,833.146	-863.143	-0.16%	-0.054
2008	6	593,165.808	594,836.113	-1,670.306	-0.28%	-0.105
2008	7	837,692.666	834,159.820	3,532.847	0.42%	0.222
2008	8	847,184.246	863,294.646	-16,110.400	-1.90%	-1.011
2008	9	779,396.681	762,634.406	16,762.275	2.15%	1.052
2008	10	633,252.299	640,726.168	-7,473.870	-1.18%	-0.469
2008	11	528,423.722	545,764.773	-17,341.051	-3.28%	-1.088
2008	12	774,457.007	773,395.343	1,061.664	0.14%	0.067
2009	1	870,833.264	887,298.966	-16,465.702	-1.89%	-1.033
2009	2	696,388.464	695,519.841	868.623	0.12%	0.055
2009	3	696,385.331	701,844.796	-5,459.465	-0.78%	-0.343
2009	4	610,909.609	620,247.561	-9,337.952	-1.53%	-0.586
2009	5	531,377.916	552,023.625	-20,645.708	-3.89%	-1.296
2009	6	640,104.329	649,749.701	-9,645.372	-1.51%	-0.605
2009	7	802,769.964	797,459.357	5,310.606	0.66%	0.333
2009	8	744,158.002	734,057.864	10,100.138	1.36%	0.634
2009	9	727,274.871	729,861.829	-2,586.958	-0.36%	-0.162
2009	10	666,729.648	659,002.057	7,727.591	1.16%	0.485
2009	11	565,887.305	571,783.601	-5,896.297	-1.04%	-0.370
2009	12	760,250.962	745,617.010	14,633.951	1.92%	0.918
2010	1	833,171.652	849,297.914	-16,126.262	-1.94%	-1.012
2010	2	684,945.013	690,549.464	-5,604.451	-0.82%	-0.352
2010	3	713,887.971	714,561.553	-673.582	-0.09%	-0.042
2010	4	583,565.212	611,653.994	-28,088.782	-4.81%	-1.763
2010	5	538,200.518	541,027.207	-2,826.689	-0.53%	-0.177
2010	6	746,776.303	718,359.292	28,417.011	3.81%	1.783
2010	7	908,499.997	935,468.175	-26,968.179	-2.97%	-1.692
2010	8	1,040,201.497	1,080,996.417	-40,794.920	-3.92%	-2.560
2010	9	814,626.030	808,361.733	6,264.296	0.77%	0.393
2010	10	584,113.673	589,085.407	-4,971.733	-0.85%	-0.312
2010	11	583,724.223	588,673.437	-4,949.214	-0.85%	-0.311
2010	12	760,449.372	747,901.791	12,547.582	1.65%	0.787
2011	1	865,260.639	882,515.749	-17,255.111	-1.99%	-1.083
2011	2	708,580.417	703,821.646	4,758.771	0.67%	0.299
2011	3	737,987.368	739,721.163	-1,733.795	-0.23%	-0.109
2011	4	598,918.015	602,357.357	-3,439.342	-0.57%	-0.216
2011	5	606,141.097	592,376.008	13,765.089	2.27%	0.864
2011	6	715,238.419	728,787.051	-13,548.632	-1.89%	-0.850
2011	7	930,028.441	952,308.829	-22,280.388	-2.40%	-1.398
2011	8	1,081,007.113	1,116,864.328	-35,857.214	-3.32%	-2.250
2011	9	801,092.085	812,817.908	-11,725.823	-1.46%	-0.736
2011	10	614,340.413	615,190.232	-849.818	-0.14%	-0.053

Xcel Energy Minnesota Residential without Space Heat
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2011	11	597,486.385	590,928.347	6,558.038	1.10%	0.412
2011	12	719,168.042	717,718.760	1,449.282	0.20%	0.091
2012	1	817,774.088	821,664.249	-3,890.161	-0.48%	-0.244
2012	2	703,661.149	708,532.584	-4,871.435	-0.69%	-0.306
2012	3	677,334.596	680,566.572	-3,231.976	-0.48%	-0.203
2012	4	573,612.919	594,601.907	-20,988.988	-3.66%	-1.317
2012	5	624,773.961	605,953.804	18,820.157	3.01%	1.181
2012	6	749,615.613	731,519.158	18,096.456	2.41%	1.136
2012	7	1,108,074.645	1,101,640.514	6,434.131	0.58%	0.404
2012	8	1,047,715.102	1,040,982.458	6,732.644	0.64%	0.422
2012	9	764,699.603	761,042.827	3,656.776	0.48%	0.229
2012	10	657,696.053	665,812.996	-8,116.943	-1.23%	-0.509
2012	11	616,839.438	614,335.156	2,504.282	0.41%	0.157
2012	12	696,882.136	694,111.219	2,770.917	0.40%	0.174
2013	1	897,309.113	896,038.333	1,270.780	0.14%	0.080
2013	2	712,053.814	711,476.693	577.120	0.08%	0.036
2013	3	695,333.860	670,119.637	25,214.224	3.63%	1.582
2013	4	710,553.934	692,666.410	17,887.524	2.52%	1.123
2013	5	634,295.088	618,128.509	16,166.579	2.55%	1.015
2013	6	626,344.998	658,734.699	-32,389.701	-5.17%	-2.033
2013	7	988,655.470	1,004,693.723	-16,038.252	-1.62%	-1.006
2013	8	885,504.263	866,822.163	18,682.100	2.11%	1.172
2013	9	926,451.620	925,653.170	798.450	0.09%	0.050
2013	10	690,452.332	688,762.369	1,689.963	0.24%	0.106
2013	11	592,231.957	584,683.802	7,548.155	1.27%	0.474
2013	12	776,896.631	771,627.325	5,269.307	0.68%	0.331
2014	1	955,891.269	951,870.701	4,020.568	0.42%	0.252
2014	2	749,885.000	726,230.883	23,654.117	3.15%	1.484
2014	3	768,192.536	753,580.906	14,611.631	1.90%	0.917
2014	4	665,501.833	666,968.844	-1,467.011	-0.22%	-0.092
2014	5	599,644.053	590,060.523	9,583.530	1.60%	0.601
2014	6	715,675.014	714,135.158	1,539.856	0.22%	0.097
2014	7	891,015.699	870,518.486	20,497.212	2.30%	1.286
2014	8	900,568.040	900,620.680	-52.640	-0.01%	-0.003
2014	9	833,632.036	837,777.304	-4,145.269	-0.50%	-0.260
2014	10	660,466.246	670,037.041	-9,570.794	-1.45%	-0.601
2014	11	559,100.841	564,046.483	-4,945.642	-0.88%	-0.310
2014	12	811,179.989	801,309.394	9,870.595	1.22%	0.619
2015	1	866,110.939	875,508.907	-9,397.967	-1.09%	-0.590
2015	2	693,643.094	693,353.778	289.316	0.04%	0.018
2015	3	762,729.796	755,117.947	7,611.849	1.00%	0.478
2015	4	629,064.222	649,105.460	-20,041.238	-3.19%	-1.258
2015	5	555,345.036	563,789.042	-8,444.007	-1.52%	-0.530
2015	6	693,627.394	698,016.788	-4,389.394	-0.63%	-0.275
2015	7	923,648.668	893,641.525	30,007.143	3.25%	1.883
2015	8	970,916.141	957,629.319	13,286.822	1.37%	0.834
2015	9	862,250.322	890,633.526	-28,383.203	-3.29%	-1.781
2015	10	681,477.959	685,329.738	-3,851.778	-0.57%	-0.242
2015	11	569,372.579	576,333.074	-6,960.495	-1.22%	-0.437
2015	12	755,389.540	750,479.242	4,910.298	0.65%	0.308
2016	1	823,022.414	831,096.830	-8,074.416	-0.98%	-0.507
2016	2	735,413.645	721,047.435	14,366.211	1.95%	0.902
2016	3	741,983.393	745,272.290	-3,288.897	-0.44%	-0.206

Xcel Energy Minnesota Residential without Space Heat
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2016	4	619,770.821	627,799.489	-8,028.668	-1.30%	-0.504
2016	5	592,834.051	592,140.849	693.201	0.12%	0.044
2016	6	772,710.312	759,056.380	13,653.932	1.77%	0.857
2016	7	916,717.264	895,067.694	21,649.569	2.36%	1.359
2016	8	1,124,450.987	1,123,830.786	620.201	0.06%	0.039
2016	9	863,216.875	828,516.953	34,699.922	4.02%	2.178
2016	10	651,656.007	649,345.260	2,310.748	0.35%	0.145
2016	11	607,811.545	617,034.233	-9,222.689	-1.52%	-0.579
2016	12	711,213.249	700,850.991	10,362.257	1.46%	0.650
2017	1	914,622.728	892,690.446	21,932.282	2.40%	1.376
2017	2	692,678.504	690,976.967	1,701.537	0.25%	0.107
2017	3	739,625.511	758,537.111	-18,911.599	-2.56%	-1.187
2017	4	606,347.029	601,521.477	4,825.551	0.80%	0.303
2017	5	614,354.560	614,375.892	-21.332	0.00%	-0.001
2017	6	779,871.997	761,541.060	18,330.937	2.35%	1.150
2017	7	881,811.023	869,241.549	12,569.473	1.43%	0.789
2017	8	988,231.220	940,636.711	47,594.509	4.82%	2.987
2017	9	772,575.211	766,328.250	6,246.961	0.81%	0.392
2017	10	725,627.042	742,676.691	-17,049.649	-2.35%	-1.070
2017	11	640,117.653	629,278.971	10,838.682	1.69%	0.680
2017	12	718,590.166	748,958.644	-30,368.478	-4.23%	-1.906
2018	1	940,667.708	907,808.849	32,858.859	3.49%	2.062
2018	2	726,726.245	722,806.411	3,919.833	0.54%	0.246
2018	3	758,586.139	757,157.258	1,428.881	0.19%	0.090
2018	4	666,841.913	660,076.081	6,765.832	1.01%	0.425
2018	5	641,588.229	640,219.884	1,368.345	0.21%	0.086
2018	6	835,754.201	868,444.740	-32,690.538	-3.91%	-2.051
2018	7	1,036,009.624	1,054,008.753	-17,999.128	-1.74%	-1.130
2018	8	1,052,036.321	1,052,002.700	33.620	0.00%	0.002
2018	9	857,061.603	870,598.699	-13,537.097	-1.58%	-0.850
2018	10	737,614.267	719,561.139	18,053.128	2.45%	1.133
2018	11	641,377.386	645,827.325	-4,449.939	-0.69%	-0.279
2018	12	739,130.268	771,046.689	-31,916.421	-4.32%	-2.003
2019	1	872,608.650	850,713.673	21,894.978	2.51%	1.374
2019	2	753,038.850	743,222.295	9,816.555	1.30%	0.616
2019	3	778,092.294	765,927.494	12,164.800	1.56%	0.763
2019	4	677,146.308	676,928.850	217.458	0.03%	0.014
2019	5	618,697.800	623,760.250	-5,062.450	-0.82%	-0.318
2019	6	672,677.877	661,822.127	10,855.751	1.61%	0.681
2019	7	974,108.793	1,005,663.964	-31,555.171	-3.24%	-1.980
2019	8	1,017,574.475	981,126.013	36,448.462	3.58%	2.287
2019	9	750,610.735	752,284.985	-1,674.250	-0.22%	-0.105
2019	10	759,890.830	749,318.826	10,572.004	1.39%	0.663
2019	11	602,168.755	622,019.546	-19,850.790	-3.30%	-1.246
2019	12	773,716.038	805,091.604	-31,375.566	-4.06%	-1.969
2020	1	883,602.082	855,455.889	28,146.194	3.19%	1.766
2020	2	704,726.249	712,967.875	-8,241.626	-1.17%	-0.517
2020	3	743,844.361	745,145.853	-1,301.492	-0.17%	-0.082
2020	4	699,412.475	701,639.524	-2,227.049	-0.32%	-0.140
2020	5	621,356.143	617,134.522	4,221.621	0.68%	0.265
2020	6		783,545.901			
2020	7		1,034,322.450			
2020	8		1,021,473.186			

Xcel Energy Minnesota Residential without Space Heat
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2020	9		886,239.180			
2020	10		716,861.736			
2020	11		633,096.979			
2020	12		829,622.239			
2021	1		891,161.075			
2021	2		748,012.776			
2021	3		812,327.387			
2021	4		691,220.653			
2021	5		611,877.053			
2021	6		779,679.784			
2021	7		986,747.547			
2021	8		1,055,635.929			
2021	9		878,256.483			
2021	10		693,241.298			
2021	11		658,690.815			
2021	12		826,957.391			
2022	1		890,333.793			
2022	2		740,913.677			
2022	3		811,568.506			
2022	4		665,150.126			
2022	5		628,578.781			
2022	6		774,737.018			
2022	7		947,977.740			
2022	8		1,090,735.210			
2022	9		873,351.087			
2022	10		687,710.190			
2022	11		655,704.294			
2022	12		823,112.891			
2023	1		885,264.091			
2023	2		736,883.859			
2023	3		804,385.630			
2023	4		639,115.982			
2023	5		644,430.019			
2023	6		771,833.177			
2023	7		950,455.308			
2023	8		1,083,992.387			
2023	9		842,099.161			
2023	10		706,677.964			
2023	11		652,611.225			
2023	12		821,543.922			
2024	1		915,717.279			
2024	2		740,532.154			
2024	3		778,377.605			
2024	4		682,608.856			
2024	5		604,616.013			
2024	6		765,998.257			
2024	7		1,023,372.369			
2024	8		1,011,133.426			
2024	9		873,591.220			
2024	10		707,149.993			
2024	11		624,036.265			
2024	12		823,849.661			
2025	1		887,832.412			

Xcel Energy Minnesota Residential without Space Heat
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2025	2		742,863.964			
2025	3		806,269.464			
2025	4		682,373.701			
2025	5		601,491.186			
2025	6		771,999.035			
2025	7		985,079.503			
2025	8		1,055,412.782			
2025	9		873,352.704			
2025	10		683,608.964			
2025	11		648,520.699			
2025	12		819,749.824			

Xcel Energy Minnesota Residential with Space Heat
Test Year 2021-2025 MWh Electric Sales

Variable	Coefficient	StdErr	T-Stat	P-Value	Definition
NR_MSP	5.173	0.129	39.965	0.00%	Total population, Minneapolis-St. Paul-Bloomington, MN-WI, thousands, U.S. Census Bureau
H65_bill_RH_MN_Jan	0.001	0.000	75.452	0.00%	Heating Degree Days*Number Residential Space Heating Customers, January
H65_bill_RH_MN_Feb	0.001	0.000	60.139	0.00%	Heating Degree Days*Number Residential Space Heating Customers, February
H65_bill_RH_MN_Mar	0.001	0.000	31095.313	0.00%	Heating Degree Days*Number Residential Space Heating Customers, March
H65_bill_RH_MN_Apr	0.001	0.000	31.474	0.00%	Heating Degree Days*Number Residential Space Heating Customers, April
H65_bill_RH_MN_May	0.001	0.000	14.591	0.00%	Heating Degree Days*Number Residential Space Heating Customers, May
H65_bill_RH_MN_Oct	0.001	0.000	9.524	0.00%	Heating Degree Days*Number Residential Space Heating Customers, October
H65_bill_RH_MN_Nov	0.001	0.000	20.601	0.00%	Heating Degree Days*Number Residential Space Heating Customers, November
H65_bill_RH_MN_Dec	0.001	0.000	49.218	0.00%	Heating Degree Days*Number Residential Space Heating Customers, December
T65_bill_RH_MN_Jun	0.002	0.000	8.851	0.00%	THI Degree Days*Number Residential Space Heating Customers, June
T65_bill_RH_MN_Jul	0.002	0.000	14.491	0.00%	THI Degree Days*Number Residential Space Heating Customers, July
T65_bill_RH_MN_Aug	0.002	0.000	16.724	0.00%	THI Degree Days*Number Residential Space Heating Customers, August
T65_bill_RH_MN_Sep	0.002	0.000	9.883	0.00%	THI Degree Days*Number Residential Space Heating Customers, September
Dec2016	-4339.663	1422.604	-3.051	0.26%	Binary variable December 2016 = 1, otherwise = 0
MA(1)	0.248	0.070	3.518	0.06%	First order moving average correction term

Dependent Variable					Definition
SLS_ResSH_MN					Minnesota Demand Side Management adjusted Billed Sales (MWh) for the Residential with Space Heat customer class.

HDD65 = Heating Degree Days base 65
THI65 = Temperature-humidity Index base 65

Xcel Energy Minnesota Residential with Space Heat
Test Year 2021-2025 MWh Electric Sales

Model Statistics		Forecast Statistics	
Iterations	9	Forecast Observations	0
Adjusted Observations	209	Mean Abs. Dev. (MAD)	0.00
Deg. of Freedom for Error	194	Mean Abs. % Err. (MAPE)	0.00%
R-Squared	0.989	31095.31293	0.00
Adjusted R-Squared	0.988	Mean % Error	0.00%
AIC	14.594	Root Mean-Square Error	0.00
BIC	14.834	Theil's Inequality Coefficient	0.0000
F-Statistic	#NA	-- Bias Proportion	0.00%
Prob (F-Statistic)	#NA	-- Variance Proportion	0.00%
Log-Likelihood	-1,806.67	-- Covariance Proportion	0.00%
Model Sum of Squares	36,288,415,655.25		
Sum of Squared Errors	394,496,496.61		
Mean Squared Error	2,033,487.10		
Std. Error of Regression	1,426.00		
Mean Abs. Dev. (MAD)	1,102.39		
Mean Abs. % Err. (MAPE)	3.62%		
Durbin-Watson Statistic	1.936		
Durbin-H Statistic	#NA		
Ljung-Box Statistic	102.54		
Prob (Ljung-Box)	0.0000		
Skewness	-0.058		
Kurtosis	2.831		
Jarque-Bera	0.369		
Prob (Jarque-Bera)	0.8317		

Xcel Energy Minnesota Residential with Space Heat
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2003	1	52,806.118	50,866.305	1,939.813	3.67%	1.360
2003	2	53,422.804	50,636.020	2,786.784	5.22%	1.954
2003	3	46,443.838	46,082.894	360.944	0.78%	0.253
2003	4	32,257.902	31,095.313	1,162.589	3.60%	0.815
2003	5	23,005.470	22,880.667	124.803	0.54%	0.088
2003	6	18,979.117	17,925.583	1,053.533	5.55%	0.739
2003	7	22,178.275	22,381.719	-203.445	-0.92%	-0.143
2003	8	23,052.974	23,820.206	-767.233	-3.33%	-0.538
2003	9	22,190.469	22,667.970	-477.502	-2.15%	-0.335
2003	10	20,303.921	21,174.075	-870.154	-4.29%	-0.610
2003	11	29,652.838	27,636.069	2,016.769	6.80%	1.414
2003	12	45,551.093	42,727.969	2,823.123	6.20%	1.980
2004	1	54,920.560	54,318.840	601.720	1.10%	0.422
2004	2	53,867.811	51,905.813	1,961.999	3.64%	1.376
2004	3	39,605.166	40,001.764	-396.598	-1.00%	-0.278
2004	4	30,565.561	30,404.789	160.772	0.53%	0.113
2004	5	21,822.159	22,960.172	-1,138.013	-5.21%	-0.798
2004	6	20,058.774	18,054.509	2,004.265	9.99%	1.406
2004	7	20,684.870	21,277.659	-592.789	-2.87%	-0.416
2004	8	20,437.326	21,065.123	-627.797	-3.07%	-0.440
2004	9	19,556.794	19,690.422	-133.628	-0.68%	-0.094
2004	10	20,312.127	20,285.234	26.893	0.13%	0.019
2004	11	26,470.511	26,041.779	428.733	1.62%	0.301
2004	12	42,705.652	40,659.757	2,045.895	4.79%	1.435
2005	1	59,464.070	57,663.152	1,800.918	3.03%	1.263
2005	2	40,994.675	43,049.430	-2,054.755	-5.01%	-1.441
2005	3	43,809.948	43,540.366	269.582	0.62%	0.189
2005	4	31,003.719	29,546.677	1,457.042	4.70%	1.022
2005	5	24,838.788	24,332.392	506.396	2.04%	0.355
2005	6	21,734.353	20,838.072	896.281	4.12%	0.629
2005	7	23,043.128	24,894.647	-1,851.519	-8.04%	-1.298
2005	8	25,683.646	25,551.334	132.313	0.52%	0.093
2005	9	19,695.129	20,438.536	-743.407	-3.77%	-0.521
2005	10	19,125.809	19,872.750	-746.940	-3.91%	-0.524
2005	11	24,647.023	25,574.561	-927.538	-3.76%	-0.650
2005	12	43,431.836	42,718.560	713.276	1.64%	0.500
2006	1	48,454.382	48,628.399	-174.017	-0.36%	-0.122
2006	2	40,579.038	41,530.359	-951.321	-2.34%	-0.667
2006	3	45,411.815	44,055.423	1,356.392	2.99%	0.951
2006	4	27,117.067	29,209.139	-2,092.072	-7.71%	-1.467
2006	5	21,239.252	21,494.056	-254.804	-1.20%	-0.179
2006	6	22,207.343	23,091.219	-883.876	-3.98%	-0.620
2006	7	22,219.382	23,192.427	-973.045	-4.38%	-0.682
2006	8	26,440.371	27,716.090	-1,275.719	-4.82%	-0.895
2006	9	18,749.761	19,258.902	-509.140	-2.72%	-0.357
2006	10	21,792.571	22,797.894	-1,005.323	-4.61%	-0.705
2006	11	29,115.824	28,744.221	371.604	1.28%	0.261
2006	12	37,587.694	38,347.002	-759.309	-2.02%	-0.532
2007	1	50,424.657	48,615.537	1,809.120	3.59%	1.269
2007	2	50,521.874	50,896.571	-374.697	-0.74%	-0.263
2007	3	44,441.788	43,690.302	751.486	1.69%	0.527
2007	4	30,537.769	31,094.515	-556.746	-1.82%	-0.390
2007	5	21,619.136	21,532.761	86.376	0.40%	0.061

Xcel Energy Minnesota Residential with Space Heat
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2007	6	19,669.668	21,986.845	-2,317.177	-11.78%	-1.625
2007	7	22,908.897	23,427.650	-518.752	-2.26%	-0.364
2007	8	24,956.502	25,832.153	-875.651	-3.51%	-0.614
2007	9	18,949.056	21,124.091	-2,175.035	-11.48%	-1.525
2007	10	20,284.784	20,067.534	217.250	1.07%	0.152
2007	11	25,677.634	26,738.009	-1,060.375	-4.13%	-0.744
2007	12	42,250.918	43,121.099	-870.180	-2.06%	-0.610
2008	1	56,643.738	57,672.471	-1,028.734	-1.82%	-0.721
2008	2	53,317.306	51,644.092	1,673.214	3.14%	1.173
2008	3	44,752.634	46,410.012	-1,657.378	-3.70%	-1.162
2008	4	36,271.511	35,574.699	696.812	1.92%	0.489
2008	5	24,107.828	25,522.568	-1,414.740	-5.87%	-0.992
2008	6	18,903.416	17,700.278	1,203.139	6.36%	0.844
2008	7	21,711.003	22,897.305	-1,186.302	-5.46%	-0.832
2008	8	21,156.301	24,089.635	-2,933.334	-13.87%	-2.057
2008	9	20,160.378	20,322.247	-161.868	-0.80%	-0.114
2008	10	19,970.166	21,638.867	-1,668.700	-8.36%	-1.170
2008	11	23,398.644	25,525.587	-2,126.944	-9.09%	-1.492
2008	12	46,869.744	46,470.707	399.037	0.85%	0.280
2009	1	61,309.384	62,550.918	-1,241.534	-2.03%	-0.871
2009	2	50,255.926	49,555.792	700.135	1.39%	0.491
2009	3	46,506.580	45,849.321	657.260	1.41%	0.461
2009	4	33,553.643	33,677.304	-123.661	-0.37%	-0.087
2009	5	21,361.340	22,976.367	-1,615.027	-7.56%	-1.133
2009	6	20,408.379	18,987.895	1,420.484	6.96%	0.996
2009	7	21,866.733	22,214.228	-347.495	-1.59%	-0.244
2009	8	19,711.648	20,979.094	-1,267.446	-6.43%	-0.889
2009	9	19,602.106	20,168.911	-566.805	-2.89%	-0.397
2009	10	23,765.242	23,810.290	-45.048	-0.19%	-0.032
2009	11	25,516.924	27,233.603	-1,716.679	-6.73%	-1.204
2009	12	43,195.666	41,970.013	1,225.653	2.84%	0.860
2010	1	57,191.191	59,324.868	-2,133.677	-3.73%	-1.496
2010	2	47,202.152	48,048.071	-845.919	-1.79%	-0.593
2010	3	45,254.537	44,701.427	553.110	1.22%	0.388
2010	4	27,263.295	27,959.136	-695.841	-2.55%	-0.488
2010	5	20,083.786	22,864.335	-2,780.549	-13.84%	-1.950
2010	6	23,454.029	20,946.407	2,507.622	10.69%	1.758
2010	7	24,411.840	25,763.675	-1,351.834	-5.54%	-0.948
2010	8	26,382.614	28,271.276	-1,888.662	-7.16%	-1.324
2010	9	21,644.452	22,377.438	-732.986	-3.39%	-0.514
2010	10	18,900.485	21,078.896	-2,178.411	-11.53%	-1.528
2010	11	25,627.463	26,404.519	-777.057	-3.03%	-0.545
2010	12	48,344.815	46,533.195	1,811.621	3.75%	1.270
2011	1	60,449.867	61,337.364	-887.498	-1.47%	-0.622
2011	2	51,339.778	50,588.186	751.592	1.46%	0.527
2011	3	50,227.395	49,379.910	847.485	1.69%	0.594
2011	4	32,945.480	34,313.149	-1,367.669	-4.15%	-0.959
2011	5	28,357.217	26,398.022	1,959.195	6.91%	1.374
2011	6	22,474.765	22,114.530	360.235	1.60%	0.253
2011	7	25,052.792	26,227.278	-1,174.486	-4.69%	-0.824
2011	8	27,858.679	29,392.568	-1,533.889	-5.51%	-1.076
2011	9	22,200.543	22,733.755	-533.212	-2.40%	-0.374
2011	10	19,958.110	21,171.204	-1,213.094	-6.08%	-0.851

Xcel Energy Minnesota Residential with Space Heat
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2011	11	27,070.738	27,386.423	-315.685	-1.17%	-0.221
2011	12	41,289.488	41,195.353	94.135	0.23%	0.066
2012	1	50,417.823	51,202.326	-784.503	-1.56%	-0.550
2012	2	46,434.044	46,476.126	-42.082	-0.09%	-0.030
2012	3	39,540.250	39,811.173	-270.922	-0.69%	-0.190
2012	4	24,295.376	26,853.283	-2,557.906	-10.53%	-1.794
2012	5	23,084.533	23,196.354	-111.821	-0.48%	-0.078
2012	6	21,625.183	22,673.348	-1,048.165	-4.85%	-0.735
2012	7	29,208.369	29,190.621	17.748	0.06%	0.012
2012	8	27,168.666	27,521.079	-352.413	-1.30%	-0.247
2012	9	21,647.072	22,259.661	-612.589	-2.83%	-0.430
2012	10	23,050.199	23,981.291	-931.092	-4.04%	-0.653
2012	11	29,848.598	29,726.514	122.085	0.41%	0.086
2012	12	40,531.058	40,684.976	-153.918	-0.38%	-0.108
2013	1	61,306.897	61,256.650	50.247	0.08%	0.035
2013	2	52,458.692	51,995.141	463.551	0.88%	0.325
2013	3	45,968.858	47,125.152	-1,156.293	-2.52%	-0.811
2013	4	44,957.197	42,277.757	2,679.441	5.96%	1.879
2013	5	30,469.017	28,730.137	1,738.879	5.71%	1.219
2013	6	20,841.454	21,036.571	-195.116	-0.94%	-0.137
2013	7	27,901.043	27,442.003	459.040	1.65%	0.322
2013	8	24,975.165	24,756.395	218.771	0.88%	0.153
2013	9	26,505.296	27,295.308	-790.012	-2.98%	-0.554
2013	10	22,773.570	22,099.665	673.905	2.96%	0.473
2013	11	30,749.966	30,360.133	389.833	1.27%	0.273
2013	12	51,477.816	50,276.107	1,201.709	2.33%	0.843
2014	1	73,128.828	71,768.708	1,360.120	1.86%	0.954
2014	2	57,506.273	57,708.346	-202.073	-0.35%	-0.142
2014	3	57,839.984	56,369.181	1,470.803	2.54%	1.031
2014	4	40,818.344	39,783.218	1,035.126	2.54%	0.726
2014	5	28,599.552	28,552.651	46.901	0.16%	0.033
2014	6	23,312.840	22,247.096	1,065.744	4.57%	0.747
2014	7	26,169.364	24,378.020	1,791.344	6.85%	1.256
2014	8	26,201.298	25,921.234	280.063	1.07%	0.196
2014	9	25,224.606	23,591.954	1,632.652	6.47%	1.145
2014	10	23,865.957	24,973.865	-1,107.908	-4.64%	-0.777
2014	11	28,977.611	29,712.946	-735.335	-2.54%	-0.516
2014	12	54,477.050	52,630.802	1,846.248	3.39%	1.295
2015	1	61,030.087	62,434.667	-1,404.581	-2.30%	-0.985
2015	2	50,574.409	50,541.486	32.923	0.07%	0.023
2015	3	55,142.143	54,768.715	373.427	0.68%	0.262
2015	4	34,825.515	34,547.353	278.162	0.80%	0.195
2015	5	23,110.850	24,644.294	-1,533.444	-6.64%	-1.075
2015	6	23,675.637	21,061.699	2,613.939	11.04%	1.833
2015	7	27,340.089	25,687.824	1,652.265	6.04%	1.159
2015	8	28,194.327	27,413.565	780.762	2.77%	0.548
2015	9	25,903.552	25,092.748	810.805	3.13%	0.569
2015	10	22,832.990	22,865.441	-32.451	-0.14%	-0.023
2015	11	24,972.481	26,762.088	-1,789.607	-7.17%	-1.255
2015	12	42,639.115	42,796.957	-157.842	-0.37%	-0.111
2016	1	54,502.117	57,854.048	-3,351.931	-6.15%	-2.351
2016	2	52,804.570	51,651.089	1,153.480	2.18%	0.809
2016	3	46,676.192	46,337.754	338.437	0.73%	0.237

Xcel Energy Minnesota Residential with Space Heat
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2016	4	33,130.199	34,570.349	-1,440.151	-4.35%	-1.010
2016	5	25,229.712	25,308.904	-79.193	-0.31%	-0.056
2016	6	25,064.287	23,712.511	1,351.776	5.39%	0.948
2016	7	26,721.324	26,382.435	338.889	1.27%	0.238
2016	8	32,263.658	30,484.764	1,778.894	5.51%	1.247
2016	9	26,225.894	24,201.301	2,024.592	7.72%	1.420
2016	10	22,678.425	22,813.734	-135.309	-0.60%	-0.095
2016	11	26,400.657	27,316.199	-915.541	-3.47%	-0.642
2016	12	41,345.170	41,048.047	297.123	0.72%	0.208
2017	1	65,493.022	64,470.489	1,022.533	1.56%	0.717
2017	2	46,605.312	47,174.845	-569.533	-1.22%	-0.399
2017	3	48,102.951	47,818.397	284.555	0.59%	0.200
2017	4	32,590.059	33,607.337	-1,017.277	-3.12%	-0.713
2017	5	27,513.757	26,587.482	926.276	3.37%	0.650
2017	6	25,781.609	24,207.842	1,573.767	6.10%	1.104
2017	7	26,710.824	25,969.752	741.071	2.77%	0.520
2017	8	29,745.439	26,394.952	3,350.487	11.26%	2.350
2017	9	24,753.473	23,243.271	1,510.202	6.10%	1.059
2017	10	24,505.973	23,191.036	1,314.938	5.37%	0.922
2017	11	34,080.358	33,440.101	640.257	1.88%	0.449
2017	12	43,734.014	46,927.578	-3,193.563	-7.30%	-2.240
2018	1	71,201.246	70,433.558	767.688	1.08%	0.538
2018	2	54,431.279	55,398.620	-967.341	-1.78%	-0.678
2018	3	52,359.597	52,936.166	-576.569	-1.10%	-0.404
2018	4	42,890.182	43,909.478	-1,019.296	-2.38%	-0.715
2018	5	29,893.639	27,039.059	2,854.580	9.55%	2.002
2018	6	26,068.331	29,700.615	-3,632.284	-13.93%	-2.547
2018	7	30,647.431	29,543.616	1,103.815	3.60%	0.774
2018	8	31,860.757	30,051.284	1,809.473	5.68%	1.269
2018	9	26,892.267	26,838.163	54.104	0.20%	0.038
2018	10	28,850.092	27,213.435	1,636.658	5.67%	1.148
2018	11	35,961.265	35,400.377	560.888	1.56%	0.393
2018	12	48,631.765	51,653.868	-3,022.103	-6.21%	-2.119
2019	1	61,242.518	60,550.104	692.413	1.13%	0.486
2019	2	59,412.090	61,264.980	-1,852.890	-3.12%	-1.299
2019	3	58,618.376	60,424.707	-1,806.330	-3.08%	-1.267
2019	4	40,022.126	39,731.174	290.952	0.73%	0.204
2019	5	30,331.234	29,406.756	924.478	3.05%	0.648
2019	6	24,109.617	21,979.477	2,130.140	8.84%	1.494
2019	7	30,507.504	29,005.854	1,501.650	4.92%	1.053
2019	8	31,470.295	29,042.825	2,427.470	7.71%	1.702
2019	9	24,420.746	23,232.169	1,188.577	4.87%	0.834
2019	10	29,017.766	25,553.469	3,464.297	11.94%	2.429
2019	11	37,857.423	36,026.719	1,830.704	4.84%	1.284
2019	12	50,952.434	54,484.407	-3,531.973	-6.93%	-2.477
2020	1	63,453.006	62,891.457	561.549	0.88%	0.394
2020	2	51,876.966	54,023.551	-2,146.585	-4.14%	-1.505
2020	3	50,858.187	52,072.093	-1,213.907	-2.39%	-0.851
2020	4	40,003.658	39,697.519	306.139	0.77%	0.215
2020	5	28,127.610	28,847.760	-720.150	-2.56%	-0.505
2020	6		23,592.766			
2020	7		28,775.799			
2020	8		29,294.375			

Xcel Energy Minnesota Residential with Space Heat
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2020	9		25,263.371			
2020	10		25,400.017			
2020	11		31,963.118			
2020	12		53,447.959			
2021	1		66,622.243			
2021	2		57,821.999			
2021	3		58,283.491			
2021	4		39,605.900			
2021	5		27,461.896			
2021	6		24,042.545			
2021	7		28,474.419			
2021	8		30,042.026			
2021	9		25,400.950			
2021	10		25,224.567			
2021	11		32,997.618			
2021	12		53,958.305			
2022	1		67,768.330			
2022	2		58,420.170			
2022	3		59,324.278			
2022	4		39,359.279			
2022	5		28,339.969			
2022	6		24,374.651			
2022	7		28,395.563			
2022	8		30,946.754			
2022	9		25,647.010			
2022	10		25,646.963			
2022	11		33,682.294			
2022	12		55,095.756			
2023	1		68,919.943			
2023	2		59,379.071			
2023	3		59,982.177			
2023	4		39,045.267			
2023	5		29,206.360			
2023	6		24,699.884			
2023	7		28,826.672			
2023	8		31,230.666			
2023	9		25,686.000			
2023	10		26,146.425			
2023	11		34,295.004			
2023	12		56,298.746			
2024	1		72,207.565			
2024	2		60,407.969			
2024	3		58,839.673			
2024	4		41,461.583			
2024	5		28,527.538			
2024	6		24,634.923			
2024	7		29,999.254			
2024	8		30,563.979			
2024	9		26,248.865			
2024	10		26,402.237			
2024	11		33,469.492			
2024	12		56,620.828			
2025	1		70,862.464			

Xcel Energy Minnesota Residential with Space Heat
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2025	2		61,415.928			
2025	3		61,950.526			
2025	4		41,793.763			
2025	5		28,669.322			
2025	6		24,966.153			
2025	7		29,757.322			
2025	8		31,448.854			
2025	9		26,424.526			
2025	10		26,229.076			
2025	11		34,623.389			
2025	12		57,247.670			

Xcel Energy Minnesota Small Commercial and Industrial
Test Year 2021-2025 MWh Electric Sales

Variable	Coefficient	StdErr	T-Stat	P-Value	Definition
EE_MN	151.646	15.353	9.877	0.00%	Total Non-Farm Employment, Minnesota, thousands, Bureau of Labor Statistics
BillDaysCellnet21	21424.099	1363.480	15.713	0.00%	Average number of billing days per month
H65_bill_SmCI_MN_Jan	0.00046	0.000	8.904	0.00%	Heating Degree Days * Number of Small C&I customers, January
H65_bill_SmCI_MN_Feb	0.00030	0.000	31095.313	0.00%	Heating Degree Days * Number of Small C&I customers, February
H65_bill_SmCI_MN_Mar	0.00049	0.000	9.067	0.00%	Heating Degree Days * Number of Small C&I customers, March
H65_bill_SmCI_MN_Dec	0.00026	0.000	4.247	0.00%	Heating Degree Days * Number of Small C&I customers, December
T65_bill_SmCI_MN_Jun	0.01038	0.001	9.444	0.00%	THI Degree Days * Number of Small C&I customers, June
T65_bill_SmCI_MN_Jul	0.00946	0.000	21.624	0.00%	THI Degree Days * Number of Small C&I customers, July
T65_bill_SmCI_MN_Aug	0.01043	0.000	26.551	0.00%	THI Degree Days * Number of Small C&I customers, August
T65_bill_SmCI_MN_Sep	0.01323	0.001	19.108	0.00%	THI Degree Days * Number of Small C&I customers, September
T65_bill_SmCI_MN_Oct	0.02263	0.002	9.132	0.00%	THI Degree Days * Number of Small C&I customers, October
Mar2005	-114981.671	31855.867	-3.609	0.04%	Binary variable March 2005
May2006	-122787.424	30785.968	-3.988	0.01%	Binary variable May 2006
Feb2005	-259284.199	31866.648	-8.137	0.00%	Binary variable February 2005
PostCRS2005	146975.062	9397.544	15.640	0.00%	Binary variable to account for billing system change starting in February 2005=1, otherwise=0
Post2012	35545.132	6595.854	5.389	0.00%	Binary variable starting in January 2012=1, otherwise=0
PostJun2018	-3036.349	674.186	-4.504	0.00%	Limited interval trend variable starting in June 2018=1 through December 2019=19 and onward, otherwise=0
AR(1)	0.223	0.072	3.112	0.22%	First order autoregressive correction term

Dependent Variable					Definition
SLS_SmCI_MN					Minnesota Demand Side Management adjusted Billed Sales (MWh) for the Small Commercial and Industrial customer class.

HDD65 = Heating Degree Days base 65
THI65 = Temperature-humidity Index base 65

Xcel Energy Minnesota Small Commercial and Industrial
Test Year 2021-2025 MWh Electric Sales

Model Statistics		
Iterations		13
Adjusted Observations		208
Deg. of Freedom for Error		190
R-Squared		0.945
Adjusted R-Squared		0.940
AIC		20.770
BIC		21.059
F-Statistic	#NA	
Prob (F-Statistic)	#NA	
Log-Likelihood		-2,437.19
Model Sum of Squares		3,136,023,230,702.05
Sum of Squared Errors		183,259,589,805.14
Mean Squared Error		964,524,156.87
Std. Error of Regression		31,056.79
Mean Abs. Dev. (MAD)		23,140.35
Mean Abs. % Err. (MAPE)		1.79%
Durbin-Watson Statistic		2.057
Durbin-H Statistic	#NA	
Ljung-Box Statistic		28.09
Prob (Ljung-Box)		0.2564
Skewness		0.088
Kurtosis		3.265
Jarque-Bera		0.873
Prob (Jarque-Bera)		0.6463

Forecast Statistics	
Forecast Observations	0
Mean Abs. Dev. (MAD)	0.00
Mean Abs. % Err. (MAPE)	0.00%
31095.31293	0.00
Mean % Error	0.00%
Root Mean-Square Error	0.00
Theil's Inequality Coefficient	0.0000
-- Bias Proportion	0.00%
-- Variance Proportion	0.00%
-- Covariance Proportion	0.00%

Xcel Energy Minnesota Small Commercial and Industrial
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2003	1	1,133,204.440				
2003	2	1,075,196.775	1,073,011.754	2,185.021	0.20%	0.070
2003	3	1,045,755.827	1,108,471.560	-62,715.733	-6.00%	-2.019
2003	4	1,018,150.183	31,095.313	-12,529.319	-1.23%	-0.403
2003	5	1,036,152.867	1,048,359.111	-12,206.244	-1.18%	-0.393
2003	6	1,088,504.503	1,085,594.966	2,909.536	0.27%	0.094
2003	7	1,208,568.108	1,205,780.556	2,787.551	0.23%	0.090
2003	8	1,229,897.660	1,241,245.943	-11,348.284	-0.92%	-0.365
2003	9	1,252,918.982	1,267,088.014	-14,169.032	-1.13%	-0.456
2003	10	1,074,500.940	1,077,654.958	-3,154.017	-0.29%	-0.102
2003	11	1,061,528.427	1,030,456.444	31,071.983	2.93%	1.000
2003	12	1,141,192.688	1,148,195.706	-7,003.019	-0.61%	-0.225
2004	1	1,150,618.508	1,191,811.171	-41,192.663	-3.58%	-1.326
2004	2	1,097,355.277	1,080,255.092	17,100.184	1.56%	0.551
2004	3	1,058,925.426	1,095,387.716	-36,462.290	-3.44%	-1.174
2004	4	1,066,903.886	1,047,291.475	19,612.411	1.84%	0.632
2004	5	1,040,526.110	1,047,596.742	-7,070.631	-0.68%	-0.228
2004	6	1,126,636.619	1,101,462.030	25,174.589	2.23%	0.811
2004	7	1,191,117.820	1,176,169.679	14,948.140	1.25%	0.481
2004	8	1,195,640.596	1,174,696.587	20,944.009	1.75%	0.674
2004	9	1,200,463.042	1,176,165.353	24,297.689	2.02%	0.782
2004	10	1,122,223.071	1,121,459.958	763.113	0.07%	0.025
2004	11	1,073,975.807	1,043,992.466	29,983.340	2.79%	0.965
2004	12	1,159,952.438	1,148,383.338	11,569.100	1.00%	0.373
2005	1	1,220,211.053	1,211,677.274	8,533.779	0.70%	0.275
2005	2	939,700.683	939,960.879	-260.196	-0.03%	-0.008
2005	3	1,176,830.568	1,177,996.657	-1,166.089	-0.10%	-0.038
2005	4	1,205,225.561	1,210,451.477	-5,225.916	-0.43%	-0.168
2005	5	1,238,143.314	1,190,450.062	47,693.252	3.85%	1.536
2005	6	1,352,472.073	1,333,603.412	18,868.661	1.40%	0.608
2005	7	1,380,435.563	1,398,968.804	-18,533.241	-1.34%	-0.597
2005	8	1,479,431.917	1,511,080.679	-31,648.763	-2.14%	-1.019
2005	9	1,361,839.506	1,332,145.727	29,693.779	2.18%	0.956
2005	10	1,357,000.824	1,294,033.075	62,967.749	4.64%	2.028
2005	11	1,158,990.805	1,188,049.001	-29,058.195	-2.51%	-0.936
2005	12	1,221,581.729	1,256,763.161	-35,181.433	-2.88%	-1.133
2006	1	1,302,989.456	1,337,837.441	-34,847.985	-2.67%	-1.122
2006	2	1,123,491.525	1,195,075.915	-71,584.390	-6.37%	-2.305
2006	3	1,248,412.371	1,308,874.681	-60,462.310	-4.84%	-1.947
2006	4	1,133,357.940	1,131,990.506	1,367.434	0.12%	0.044
2006	5	1,117,110.832	1,116,906.242	204.590	0.02%	0.007
2006	6	1,370,464.504	1,369,547.617	916.887	0.07%	0.030
2006	7	1,429,164.891	1,364,317.300	64,847.591	4.54%	2.088
2006	8	1,502,944.867	1,581,131.226	-78,186.359	-5.20%	-2.518
2006	9	1,353,347.436	1,266,949.319	86,398.117	6.38%	2.782
2006	10	1,247,059.117	1,262,599.855	-15,540.738	-1.25%	-0.500
2006	11	1,145,619.087	1,176,958.687	-31,339.600	-2.74%	-1.009
2006	12	1,196,892.761	1,212,289.238	-15,396.476	-1.29%	-0.496
2007	1	1,351,898.173	1,377,466.014	-25,567.841	-1.89%	-0.823
2007	2	1,204,780.240	1,213,610.364	-8,830.124	-0.73%	-0.284
2007	3	1,307,704.984	1,294,314.001	13,390.983	1.02%	0.431
2007	4	1,131,991.635	1,193,367.949	-61,376.314	-5.42%	-1.976
2007	5	1,217,667.463	1,222,974.981	-5,307.519	-0.44%	-0.171

Xcel Energy Minnesota Small Commercial and Industrial
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2007	6	1,299,045.282	1,313,200.203	-14,154.920	-1.09%	-0.456
2007	7	1,418,284.651	1,406,019.857	12,264.794	0.86%	0.395
2007	8	1,515,623.340	1,510,925.510	4,697.830	0.31%	0.151
2007	9	1,262,441.829	1,308,571.849	-46,130.020	-3.65%	-1.485
2007	10	1,360,010.327	1,365,876.846	-5,866.519	-0.43%	-0.189
2007	11	1,135,032.326	1,177,346.251	-42,313.924	-3.73%	-1.362
2007	12	1,226,694.506	1,220,210.783	6,483.723	0.53%	0.209
2008	1	1,356,098.181	1,400,267.616	-44,169.435	-3.26%	-1.422
2008	2	1,234,884.700	1,243,685.801	-8,801.101	-0.71%	-0.283
2008	3	1,213,592.087	1,251,236.304	-37,644.217	-3.10%	-1.212
2008	4	1,249,206.990	1,238,112.081	11,094.909	0.89%	0.357
2008	5	1,165,669.282	1,200,498.648	-34,829.367	-2.99%	-1.121
2008	6	1,251,809.843	1,233,614.449	18,195.394	1.45%	0.586
2008	7	1,419,119.701	1,397,965.079	21,154.622	1.49%	0.681
2008	8	1,397,936.426	1,375,194.631	22,741.795	1.63%	0.732
2008	9	1,429,400.135	1,390,768.027	38,632.108	2.70%	1.244
2008	10	1,297,248.397	1,307,470.290	-10,221.893	-0.79%	-0.329
2008	11	1,091,507.730	1,102,986.402	-11,478.672	-1.05%	-0.370
2008	12	1,313,527.429	1,302,969.975	10,557.454	0.80%	0.340
2009	1	1,361,277.168	1,368,562.742	-7,285.574	-0.54%	-0.235
2009	2	1,210,747.800	1,206,410.770	4,337.030	0.36%	0.140
2009	3	1,304,456.787	1,291,212.318	13,244.469	1.02%	0.426
2009	4	1,183,303.046	1,204,449.367	-21,146.321	-1.79%	-0.681
2009	5	1,163,769.496	1,158,638.184	5,131.312	0.44%	0.165
2009	6	1,316,448.488	1,275,004.313	41,444.175	3.15%	1.334
2009	7	1,425,084.745	1,363,065.506	62,019.239	4.35%	1.997
2009	8	1,359,235.649	1,299,317.549	59,918.100	4.41%	1.929
2009	9	1,329,938.989	1,320,533.684	9,405.305	0.71%	0.303
2009	10	1,281,954.145	1,278,055.403	3,898.742	0.30%	0.126
2009	11	1,119,661.293	1,122,188.842	-2,527.548	-0.23%	-0.081
2009	12	1,282,725.862	1,279,671.411	3,054.451	0.24%	0.098
2010	1	1,348,909.841	1,315,467.937	33,441.904	2.48%	1.077
2010	2	1,181,756.503	1,203,233.248	-21,476.745	-1.82%	-0.692
2010	3	1,312,038.585	1,306,064.873	5,973.712	0.46%	0.192
2010	4	1,203,633.666	1,205,923.324	-2,289.658	-0.19%	-0.074
2010	5	1,107,769.964	1,146,343.457	-38,573.493	-3.48%	-1.242
2010	6	1,393,140.685	1,306,739.572	86,401.113	6.20%	2.782
2010	7	1,427,078.036	1,416,695.578	10,382.458	0.73%	0.334
2010	8	1,516,631.199	1,523,236.003	-6,604.803	-0.44%	-0.213
2010	9	1,382,036.969	1,376,677.859	5,359.110	0.39%	0.173
2010	10	1,218,128.547	1,193,996.069	24,132.478	1.98%	0.777
2010	11	1,175,678.573	1,162,743.712	12,934.861	1.10%	0.416
2010	12	1,258,552.836	1,260,056.072	-1,503.236	-0.12%	-0.048
2011	1	1,405,633.623	1,356,158.685	49,474.937	3.52%	1.593
2011	2	1,193,628.463	1,214,359.158	-20,730.695	-1.74%	-0.668
2011	3	1,311,952.693	1,320,877.400	-8,924.707	-0.68%	-0.287
2011	4	1,146,265.342	1,157,054.851	-10,789.509	-0.94%	-0.347
2011	5	1,233,233.632	1,205,293.453	27,940.179	2.27%	0.900
2011	6	1,318,465.446	1,320,748.192	-2,282.745	-0.17%	-0.074
2011	7	1,366,665.373	1,418,041.680	-51,376.307	-3.76%	-1.654
2011	8	1,595,285.670	1,540,117.632	55,168.038	3.46%	1.776
2011	9	1,398,059.610	1,395,462.165	2,597.445	0.19%	0.084
2011	10	1,271,330.605	1,252,029.783	19,300.823	1.52%	0.621

Xcel Energy Minnesota Small Commercial and Industrial
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2011	11	1,154,290.184	1,171,440.629	-17,150.445	-1.49%	-0.552
2011	12	1,231,928.649	1,245,958.753	-14,030.103	-1.14%	-0.452
2012	1	1,358,827.154	1,373,305.735	-14,478.581	-1.07%	-0.466
2012	2	1,245,357.984	1,263,875.514	-18,517.530	-1.49%	-0.596
2012	3	1,283,787.037	1,304,812.180	-21,025.143	-1.64%	-0.677
2012	4	1,196,159.184	1,213,193.128	-17,033.944	-1.42%	-0.548
2012	5	1,248,119.470	1,259,375.210	-11,255.740	-0.90%	-0.362
2012	6	1,337,971.254	1,335,931.288	2,039.966	0.15%	0.066
2012	7	1,512,167.903	1,542,389.809	-30,221.907	-2.00%	-0.973
2012	8	1,578,254.608	1,536,673.548	41,581.061	2.63%	1.339
2012	9	1,337,413.826	1,342,908.016	-5,494.189	-0.41%	-0.177
2012	10	1,345,017.266	1,312,476.174	32,541.092	2.42%	1.048
2012	11	1,204,496.824	1,220,391.465	-15,894.640	-1.32%	-0.512
2012	12	1,265,485.223	1,254,193.676	11,291.548	0.89%	0.364
2013	1	1,397,710.446	1,436,526.337	-38,815.890	-2.78%	-1.250
2013	2	1,229,558.532	1,245,252.696	-15,694.164	-1.28%	-0.505
2013	3	1,300,205.602	1,269,434.195	30,771.407	2.37%	0.991
2013	4	1,281,024.809	1,298,120.859	-17,096.050	-1.33%	-0.550
2013	5	1,290,931.256	1,262,360.805	28,570.451	2.21%	0.920
2013	6	1,231,780.150	1,280,664.950	-48,884.800	-3.97%	-1.574
2013	7	1,506,321.131	1,513,173.245	-6,852.115	-0.45%	-0.221
2013	8	1,464,566.270	1,433,897.012	30,669.258	2.09%	0.988
2013	9	1,478,212.236	1,522,818.777	-44,606.541	-3.02%	-1.436
2013	10	1,373,728.996	1,365,666.232	8,062.764	0.59%	0.260
2013	11	1,225,633.306	1,176,271.066	49,362.240	4.03%	1.589
2013	12	1,313,056.042	1,329,192.956	-16,136.914	-1.23%	-0.520
2014	1	1,483,189.400	1,458,280.427	24,908.973	1.68%	0.802
2014	2	1,286,757.681	1,251,883.864	34,873.817	2.71%	1.123
2014	3	1,385,178.128	1,361,218.887	23,959.241	1.73%	0.771
2014	4	1,261,034.433	1,274,026.453	-12,992.020	-1.03%	-0.418
2014	5	1,241,391.898	1,240,584.263	807.635	0.07%	0.026
2014	6	1,404,072.046	1,337,497.113	66,574.933	4.74%	2.144
2014	7	1,457,889.451	1,455,139.801	2,749.650	0.19%	0.089
2014	8	1,455,414.760	1,433,918.822	21,495.939	1.48%	0.692
2014	9	1,485,196.101	1,441,234.416	43,961.685	2.96%	1.416
2014	10	1,354,392.838	1,343,451.338	10,941.501	0.81%	0.352
2014	11	1,194,465.860	1,157,421.957	37,043.903	3.10%	1.193
2014	12	1,399,873.359	1,369,590.932	30,282.427	2.16%	0.975
2015	1	1,427,584.973	1,418,079.190	9,505.783	0.67%	0.306
2015	2	1,263,016.183	1,246,181.917	16,834.266	1.33%	0.542
2015	3	1,402,537.711	1,386,450.779	16,086.933	1.15%	0.518
2015	4	1,260,782.458	1,278,508.044	-17,725.586	-1.41%	-0.571
2015	5	1,213,561.293	1,216,782.421	-3,221.128	-0.27%	-0.104
2015	6	1,361,642.921	1,355,531.896	6,111.025	0.45%	0.197
2015	7	1,479,241.087	1,464,421.595	14,819.492	1.00%	0.477
2015	8	1,508,364.848	1,472,148.700	36,216.148	2.40%	1.166
2015	9	1,450,247.916	1,476,035.051	-25,787.135	-1.78%	-0.830
2015	10	1,390,106.583	1,375,880.417	14,226.166	1.02%	0.458
2015	11	1,223,236.131	1,195,594.791	27,641.340	2.26%	0.890
2015	12	1,336,785.417	1,356,858.830	-20,073.413	-1.50%	-0.646
2016	1	1,359,176.888	1,373,491.578	-14,314.689	-1.05%	-0.461
2016	2	1,330,806.873	1,280,307.372	50,499.501	3.79%	1.626
2016	3	1,371,412.938	1,402,891.002	-31,478.064	-2.30%	-1.014

Xcel Energy Minnesota Small Commercial and Industrial
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2016	4	1,192,698.578	1,245,294.248	-52,595.670	-4.41%	-1.694
2016	5	1,266,886.701	1,240,635.389	26,251.312	2.07%	0.845
2016	6	1,376,226.483	1,400,753.188	-24,526.704	-1.78%	-0.790
2016	7	1,428,630.688	1,418,872.273	9,758.415	0.68%	0.314
2016	8	1,591,978.430	1,612,697.966	-20,719.536	-1.30%	-0.667
2016	9	1,461,450.592	1,428,692.214	32,758.379	2.24%	1.055
2016	10	1,336,109.886	1,300,043.129	36,066.757	2.70%	1.161
2016	11	1,211,729.126	1,243,869.459	-32,140.333	-2.65%	-1.035
2016	12	1,322,533.707	1,313,622.405	8,911.303	0.67%	0.287
2017	1	1,432,607.872	1,430,145.127	2,462.745	0.17%	0.079
2017	2	1,234,765.454	1,246,809.908	-12,044.454	-0.98%	-0.388
2017	3	1,382,094.442	1,404,529.164	-22,434.722	-1.62%	-0.722
2017	4	1,177,716.178	1,221,753.258	-44,037.080	-3.74%	-1.418
2017	5	1,263,215.132	1,279,670.392	-16,455.260	-1.30%	-0.530
2017	6	1,383,947.041	1,396,357.579	-12,410.537	-0.90%	-0.400
2017	7	1,437,950.357	1,408,407.501	29,542.856	2.05%	0.951
2017	8	1,502,226.169	1,509,786.008	-7,559.839	-0.50%	-0.243
2017	9	1,371,934.141	1,361,663.129	10,271.013	0.75%	0.331
2017	10	1,372,790.927	1,439,505.786	-66,714.859	-4.86%	-2.148
2017	11	1,229,244.307	1,226,976.206	2,268.100	0.18%	0.073
2017	12	1,297,642.802	1,319,067.176	-21,424.374	-1.65%	-0.690
2018	1	1,465,665.693	1,438,523.358	27,142.335	1.85%	0.874
2018	2	1,281,679.949	1,266,426.634	15,253.315	1.19%	0.491
2018	3	1,372,183.732	1,394,892.580	-22,708.848	-1.65%	-0.731
2018	4	1,242,508.364	1,258,477.822	-15,969.458	-1.29%	-0.514
2018	5	1,276,666.852	1,288,609.937	-11,943.085	-0.94%	-0.385
2018	6	1,395,274.663	1,445,484.178	-50,209.515	-3.60%	-1.617
2018	7	1,515,011.901	1,533,380.834	-18,368.933	-1.21%	-0.591
2018	8	1,531,546.428	1,569,973.699	-38,427.270	-2.51%	-1.237
2018	9	1,401,179.079	1,421,128.206	-19,949.127	-1.42%	-0.642
2018	10	1,394,109.447	1,392,264.108	1,845.339	0.13%	0.059
2018	11	1,214,822.064	1,227,917.209	-13,095.145	-1.08%	-0.422
2018	12	1,353,688.115	1,308,106.008	45,582.107	3.37%	1.468
2019	1	1,383,302.367	1,406,727.525	-23,425.158	-1.69%	-0.754
2019	2	1,230,206.935	1,241,764.027	-11,557.092	-0.94%	-0.372
2019	3	1,400,641.950	1,344,654.133	55,987.816	4.00%	1.803
2019	4	1,261,385.237	1,273,388.481	-12,003.244	-0.95%	-0.386
2019	5	1,244,162.865	1,260,760.034	-16,597.169	-1.33%	-0.534
2019	6	1,263,921.575	1,261,060.320	2,861.255	0.23%	0.092
2019	7	1,474,451.005	1,489,293.784	-14,842.778	-1.01%	-0.478
2019	8	1,484,988.378	1,474,640.131	10,348.247	0.70%	0.333
2019	9	1,341,536.522	1,317,541.334	23,995.188	1.79%	0.773
2019	10	1,400,913.581	1,400,436.072	477.509	0.03%	0.015
2019	11	1,182,779.570	1,151,248.093	31,531.477	2.67%	1.015
2019	12	1,319,208.996	1,330,770.298	-11,561.301	-0.88%	-0.372
2020	1	1,418,064.365	1,363,844.224	54,220.142	3.82%	1.746
2020	2	1,223,321.615	1,216,332.065	6,989.550	0.57%	0.225
2020	3	1,338,451.479	1,308,370.260	30,081.219	2.25%	0.969
2020	4	1,112,665.242	1,190,550.543	-77,885.300	-7.00%	-2.508
2020	5	1,040,405.253	1,086,076.172	-45,670.919	-4.39%	-1.471
2020	6		1,239,342.137			
2020	7		1,381,995.914			
2020	8		1,351,840.240			

Xcel Energy Minnesota Small Commercial and Industrial
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2020	9		1,309,311.972			
2020	10		1,220,776.605			
2020	11		1,069,890.543			
2020	12		1,239,410.200			
2021	1		1,269,454.868			
2021	2		1,143,412.731			
2021	3		1,308,635.615			
2021	4		1,176,831.773			
2021	5		1,121,634.611			
2021	6		1,288,610.470			
2021	7		1,376,553.190			
2021	8		1,437,440.126			
2021	9		1,349,216.238			
2021	10		1,228,384.501			
2021	11		1,144,739.701			
2021	12		1,270,810.467			
2022	1		1,306,096.662			
2022	2		1,170,533.449			
2022	3		1,342,343.365			
2022	4		1,175,105.506			
2022	5		1,180,108.441			
2022	6		1,311,596.042			
2022	7		1,362,332.298			
2022	8		1,502,169.543			
2022	9		1,372,881.113			
2022	10		1,249,745.930			
2022	11		1,168,661.518			
2022	12		1,291,985.711			
2023	1		1,326,088.605			
2023	2		1,192,126.491			
2023	3		1,359,871.120			
2023	4		1,165,388.975			
2023	5		1,229,919.508			
2023	6		1,330,914.127			
2023	7		1,386,012.000			
2023	8		1,517,542.380			
2023	9		1,355,404.176			
2023	10		1,300,598.059			
2023	11		1,185,720.015			
2023	12		1,309,418.176			
2024	1		1,372,591.759			
2024	2		1,209,577.611			
2024	3		1,339,243.750			
2024	4		1,237,569.229			
2024	5		1,183,409.013			
2024	6		1,339,941.381			
2024	7		1,477,997.177			
2024	8		1,450,322.053			
2024	9		1,404,409.997			
2024	10		1,312,469.818			
2024	11		1,158,502.035			
2024	12		1,324,728.138			
2025	1		1,351,842.195			

Xcel Energy Minnesota Small Commercial and Industrial
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2025	2		1,221,050.012			
2025	3		1,383,935.692			
2025	4		1,246,584.864			
2025	5		1,188,044.358			
2025	6		1,355,119.822			
2025	7		1,445,135.666			
2025	8		1,505,949.633			
2025	9		1,413,501.527			
2025	10		1,286,968.961			
2025	11		1,199,306.463			
2025	12		1,325,656.122			

Xcel Energy Minnesota Large Commercial and Industrial
Test Year 2021-2025 MWh Electric Sales

Variable	Coefficient	StdErr	T-Stat	P-Value	Definition
IPMFG_MN	3239.774	303.592	10.671	0.00%	Industrial production index, Minnesota, 2012 = 100, IHS Markit
PostCRS	-34831.226	6974.376	-4.994	0.00%	Binary variable to account for billing system change; February 2005 to May 2007=1, otherwise=0
Feb2005	-311053.724	27534.291	-11.297	0.00%	Binary variable February 2005=1, otherwise=0
Mar2005	-406474.091	27360.216	31095.313	0.00%	Binary variable March 2005=1, otherwise=0
Apr2005	-356676.808	27205.109	-13.111	0.00%	Binary variable April 2005=1, otherwise=0
May2005	312051.427	27145.752	11.495	0.00%	Binary variable May 2005=1, otherwise=0
Jun2005	184418.266	26923.246	6.850	0.00%	Binary variable June 2005=1, otherwise=0
Aug2005	60236.174	26612.787	2.263	2.48%	Binary variable August 2005=1, otherwise=0
Feb2006	-126039.780	26845.953	-4.695	0.00%	Binary variable February 2006=1, otherwise=0
Oct2004	-122853.091	26113.890	-4.705	0.00%	Binary variable October 2004=1, otherwise=0
Nov2007	-92272.399	26077.453	-3.538	0.05%	Binary variable Nov 2007=1, otherwise=0
Mar2006	133086.603	26874.613	4.952	0.00%	Binary variable March 2006=1, otherwise=0
BillDaysCellnet21	14914.126	898.014	16.608	0.00%	Average number of billing days per month
Feb	30692.347	9108.826	3.370	0.09%	Binary variable February=1, otherwise=0
Mar	25542.249	8854.722	2.885	0.44%	Binary variable March=1, otherwise=0
Apr	19230.641	8876.925	2.166	3.16%	Binary variable April=1, otherwise=0
May	28840.073	8840.239	3.262	0.13%	Binary variable May=1, otherwise=0
June	53857.816	8956.487	6.013	0.00%	Binary variable June=1, otherwise=0
Jul	100162.590	8858.959	11.306	0.00%	Binary variable July=1, otherwise=0
Aug	133380.815	9011.035	14.802	0.00%	Binary variable August=1, otherwise=0
Sep	113370.849	9043.147	12.537	0.00%	Binary variable September=1, otherwise=0
Oct	63074.009	8983.506	7.021	0.00%	Binary variable October=1, otherwise=0
Nov	41668.853	9715.160	4.289	0.00%	Binary variable November=1, otherwise=0
Dec	18806.287	8229.519	2.285	2.34%	Binary variable December=1, otherwise=0
PostJan2018	-31921.995	6230.438	-5.124	0.00%	Binary variable beginning February 2018=1, otherwise=0
AR(1)	0.140	0.075	1.856	6.50%	First order autoregressive correction term

Dependent Variable	Definition
SLS_LgCI_MN	Minnesota Demand Side Management adjusted Billed Sales (MWh) for the Large Commercial and Industrial customer class.

Xcel Energy Minnesota Large Commercial and Industrial
Test Year 2021-2025 MWh Electric Sales

Model Statistics		
Iterations		12
Adjusted Observations		208
Deg. of Freedom for Error		182
R-Squared		0.914
Adjusted R-Squared		0.902
AIC		20.414
BIC		20.831
F-Statistic	#NA	
Prob (F-Statistic)	#NA	
Log-Likelihood		-2,392.21
Model Sum of Squares		1,267,428,114,812.06
Sum of Squared Errors		118,911,457,686.60
Mean Squared Error		653,359,657.62
Std. Error of Regression		25,560.90
Mean Abs. Dev. (MAD)		18,255.88
Mean Abs. % Err. (MAPE)		2.24%
Durbin-Watson Statistic		2.036
Durbin-H Statistic	#NA	
Ljung-Box Statistic		38.42
Prob (Ljung-Box)		0.0314
Skewness		0.474
Kurtosis		3.292
Jarque-Bera		8.535
Prob (Jarque-Bera)		0.0140

Forecast Statistics	
Forecast Observations	0
Mean Abs. Dev. (MAD)	0.00
Mean Abs. % Err. (MAPE)	0.00%
31095.31293	0.00
Mean % Error	0.00%
Root Mean-Square Error	0.00
Theil's Inequality Coefficient	0.0000
-- Bias Proportion	0.00%
-- Variance Proportion	0.00%
-- Covariance Proportion	0.00%

Xcel Energy Minnesota Large Commercial and Industrial
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2003	1	800,273.692				
2003	2	753,022.192	750,983.293	2,038.898	0.27%	0.080
2003	3	705,857.532	744,225.587	-38,368.055	-5.44%	-1.501
2003	4	794,219.769	31,095.313	55,142.561	6.94%	2.157
2003	5	794,461.726	767,445.540	27,016.186	3.40%	1.057
2003	6	786,164.121	795,431.632	-9,267.511	-1.18%	-0.363
2003	7	863,449.207	836,575.990	26,873.217	3.11%	1.051
2003	8	857,771.464	858,688.309	-916.845	-0.11%	-0.036
2003	9	856,956.287	854,402.769	2,553.517	0.30%	0.100
2003	10	795,710.947	787,629.343	8,081.604	1.02%	0.316
2003	11	756,631.382	766,121.801	-9,490.419	-1.25%	-0.371
2003	12	786,894.508	792,976.654	-6,082.147	-0.77%	-0.238
2004	1	743,555.363	777,379.461	-33,824.098	-4.55%	-1.323
2004	2	808,574.279	753,301.945	55,272.334	6.84%	2.162
2004	3	717,979.849	759,535.620	-41,555.771	-5.79%	-1.626
2004	4	780,978.730	756,455.572	24,523.157	3.14%	0.959
2004	5	779,736.615	766,721.476	13,015.138	1.67%	0.509
2004	6	871,316.589	808,236.969	63,079.621	7.24%	2.468
2004	7	873,782.288	857,912.146	15,870.142	1.82%	0.621
2004	8	847,126.941	873,429.688	-26,302.748	-3.10%	-1.029
2004	9	892,621.747	862,424.808	30,196.939	3.38%	1.181
2004	10	696,179.478	686,353.944	9,825.535	1.41%	0.384
2004	11	856,305.779	785,988.428	70,317.351	8.21%	2.751
2004	12	785,605.485	819,022.350	-33,416.865	-4.25%	-1.307
2005	1	859,426.280	795,545.950	63,880.330	7.43%	2.499
2005	2	419,021.453	419,020.154	1.299	0.00%	0.000
2005	3	358,009.614	358,000.321	9.293	0.00%	0.000
2005	4	393,397.993	393,331.487	66.506	0.02%	0.003
2005	5	1,059,191.999	1,058,716.042	475.957	0.04%	0.019
2005	6	997,835.522	994,429.291	3,406.231	0.34%	0.133
2005	7	837,725.236	813,348.225	24,377.011	2.91%	0.954
2005	8	954,752.433	958,023.827	-3,271.394	-0.34%	-0.128
2005	9	824,535.719	847,947.758	-23,412.038	-2.84%	-0.916
2005	10	846,654.539	782,174.947	64,479.593	7.62%	2.523
2005	11	751,664.267	756,149.184	-4,484.917	-0.60%	-0.175
2005	12	761,667.448	760,165.498	1,501.950	0.20%	0.059
2006	1	786,195.536	777,364.125	8,831.411	1.12%	0.346
2006	2	606,996.458	607,074.889	-78.430	-0.01%	-0.003
2006	3	921,648.901	922,210.196	-561.295	-0.06%	-0.022
2006	4	706,612.042	710,629.001	-4,016.959	-0.57%	-0.157
2006	5	774,819.067	785,541.855	-10,722.788	-1.38%	-0.419
2006	6	791,601.537	815,996.702	-24,395.165	-3.08%	-0.954
2006	7	818,727.788	819,823.004	-1,095.216	-0.13%	-0.043
2006	8	895,837.505	902,227.267	-6,389.762	-0.71%	-0.250
2006	9	813,339.343	835,522.402	-22,183.059	-2.73%	-0.868
2006	10	814,552.957	811,173.997	3,378.959	0.41%	0.132
2006	11	741,816.174	756,598.758	-14,782.584	-1.99%	-0.578
2006	12	721,320.644	740,922.353	-19,601.709	-2.72%	-0.767
2007	1	785,403.004	806,411.481	-21,008.477	-2.67%	-0.822
2007	2	735,276.644	738,091.421	-2,814.777	-0.38%	-0.110
2007	3	804,584.165	778,697.109	25,887.057	3.22%	1.013
2007	4	747,360.135	754,666.594	-7,306.459	-0.98%	-0.286
2007	5	827,616.483	793,564.051	34,052.432	4.11%	1.332

Xcel Energy Minnesota Large Commercial and Industrial
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2007	6	851,947.484	849,836.505	2,110.979	0.25%	0.083
2007	7	887,809.214	894,977.350	-7,168.136	-0.81%	-0.280
2007	8	958,616.970	948,833.125	9,783.845	1.02%	0.383
2007	9	857,099.990	865,556.247	-8,456.257	-0.99%	-0.331
2007	10	900,448.138	882,561.936	17,886.202	1.99%	0.700
2007	11	722,097.817	716,811.609	5,286.207	0.73%	0.207
2007	12	830,371.874	792,540.639	37,831.235	4.56%	1.480
2008	1	852,797.880	857,440.967	-4,643.087	-0.54%	-0.182
2008	2	776,637.251	805,904.632	-29,267.381	-3.77%	-1.145
2008	3	839,968.279	781,337.070	58,631.208	6.98%	2.294
2008	4	828,234.092	833,987.636	-5,753.544	-0.69%	-0.225
2008	5	767,142.642	801,827.044	-34,684.402	-4.52%	-1.357
2008	6	860,088.712	834,731.695	25,357.017	2.95%	0.992
2008	7	914,299.756	905,936.941	8,362.815	0.91%	0.327
2008	8	890,822.678	875,531.197	15,291.480	1.72%	0.598
2008	9	936,555.696	912,740.187	23,815.508	2.54%	0.932
2008	10	864,646.046	856,969.451	7,676.594	0.89%	0.300
2008	11	727,177.566	725,158.006	2,019.560	0.28%	0.079
2008	12	826,559.200	808,017.992	18,541.207	2.24%	0.725
2009	1	774,942.419	787,381.456	-12,439.037	-1.61%	-0.487
2009	2	742,382.678	734,067.420	8,315.258	1.12%	0.325
2009	3	748,961.063	769,989.497	-21,028.434	-2.81%	-0.823
2009	4	754,608.003	748,215.170	6,392.834	0.85%	0.250
2009	5	710,924.305	731,684.964	-20,760.660	-2.92%	-0.812
2009	6	784,646.481	806,499.119	-21,852.638	-2.79%	-0.855
2009	7	847,739.866	854,890.606	-7,150.740	-0.84%	-0.280
2009	8	842,109.412	853,720.918	-11,611.506	-1.38%	-0.454
2009	9	844,855.780	849,381.024	-4,525.244	-0.54%	-0.177
2009	10	808,612.523	810,362.517	-1,749.994	-0.22%	-0.068
2009	11	721,395.681	728,083.692	-6,688.012	-0.93%	-0.262
2009	12	766,808.404	793,108.865	-26,300.461	-3.43%	-1.029
2010	1	752,226.619	757,002.491	-4,775.872	-0.63%	-0.187
2010	2	752,792.688	740,324.378	12,468.310	1.66%	0.488
2010	3	774,877.704	803,474.755	-28,597.051	-3.69%	-1.119
2010	4	767,029.121	772,825.151	-5,796.030	-0.76%	-0.227
2010	5	756,377.956	746,710.134	9,667.822	1.28%	0.378
2010	6	862,658.292	838,984.595	23,673.697	2.74%	0.926
2010	7	868,455.340	864,286.816	4,168.524	0.48%	0.163
2010	8	961,551.112	903,751.524	57,799.588	6.01%	2.261
2010	9	887,371.428	883,668.895	3,702.533	0.42%	0.145
2010	10	780,807.101	813,900.769	-33,093.669	-4.24%	-1.295
2010	11	780,039.761	768,553.725	11,486.036	1.47%	0.449
2010	12	799,203.563	791,953.665	7,249.899	0.91%	0.284
2011	1	842,518.103	804,244.639	38,273.464	4.54%	1.497
2011	2	753,526.428	765,122.330	-11,595.903	-1.54%	-0.454
2011	3	811,581.959	815,706.533	-4,124.574	-0.51%	-0.161
2011	4	763,802.039	753,041.258	10,760.781	1.41%	0.421
2011	5	786,800.634	798,438.289	-11,637.655	-1.48%	-0.455
2011	6	842,355.467	844,796.108	-2,440.641	-0.29%	-0.095
2011	7	889,867.499	865,741.939	24,125.560	2.71%	0.944
2011	8	955,751.267	921,291.126	34,460.141	3.61%	1.348
2011	9	900,888.646	892,172.935	8,715.711	0.97%	0.341
2011	10	802,974.075	826,046.706	-23,072.631	-2.87%	-0.903

Xcel Energy Minnesota Large Commercial and Industrial
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2011	11	780,370.050	782,965.765	-2,595.714	-0.33%	-0.102
2011	12	798,898.086	797,579.890	1,318.196	0.17%	0.052
2012	1	807,860.276	816,345.834	-8,485.558	-1.05%	-0.332
2012	2	771,628.675	790,893.142	-19,264.467	-2.50%	-0.754
2012	3	804,104.396	805,020.929	-916.533	-0.11%	-0.036
2012	4	789,793.403	777,254.702	12,538.701	1.59%	0.491
2012	5	828,036.214	820,681.483	7,354.731	0.89%	0.288
2012	6	840,426.857	835,733.718	4,693.139	0.56%	0.184
2012	7	907,296.297	883,422.244	23,874.053	2.63%	0.934
2012	8	968,898.963	940,959.883	27,939.080	2.88%	1.093
2012	9	851,902.228	856,437.229	-4,535.001	-0.53%	-0.177
2012	10	835,902.779	871,223.762	-35,320.982	-4.23%	-1.382
2012	11	810,731.370	789,396.930	21,334.440	2.63%	0.835
2012	12	767,474.951	782,269.424	-14,794.473	-1.93%	-0.579
2013	1	820,265.942	839,660.422	-19,394.479	-2.36%	-0.759
2013	2	745,970.183	772,542.280	-26,572.097	-3.56%	-1.040
2013	3	796,478.520	765,972.925	30,505.595	3.83%	1.193
2013	4	835,002.639	830,433.028	4,569.610	0.55%	0.179
2013	5	799,668.273	818,086.983	-18,418.710	-2.30%	-0.721
2013	6	812,910.593	813,024.409	-113.816	-0.01%	-0.004
2013	7	888,552.680	905,183.886	-16,631.205	-1.87%	-0.651
2013	8	913,514.966	916,969.606	-3,454.640	-0.38%	-0.135
2013	9	860,555.025	876,297.588	-15,742.563	-1.83%	-0.616
2013	10	886,192.500	869,039.078	17,153.423	1.94%	0.671
2013	11	771,095.119	768,013.017	3,082.102	0.40%	0.121
2013	12	808,521.846	812,560.961	-4,039.115	-0.50%	-0.158
2014	1	808,560.717	841,448.727	-32,888.010	-4.07%	-1.287
2014	2	788,164.202	757,738.678	30,425.524	3.86%	1.190
2014	3	817,759.023	809,777.914	7,981.109	0.98%	0.312
2014	4	777,496.655	809,221.761	-31,725.106	-4.08%	-1.241
2014	5	754,873.617	796,596.736	-41,723.119	-5.53%	-1.632
2014	6	817,115.904	836,484.529	-19,368.625	-2.37%	-0.758
2014	7	869,949.482	906,946.232	-36,996.750	-4.25%	-1.447
2014	8	855,238.254	900,490.472	-45,252.218	-5.29%	-1.770
2014	9	929,458.470	899,954.661	29,503.809	3.17%	1.154
2014	10	850,871.853	879,398.586	-28,526.733	-3.35%	-1.116
2014	11	755,030.201	748,658.897	6,371.305	0.84%	0.249
2014	12	842,088.707	842,215.805	-127.097	-0.02%	-0.005
2015	1	814,983.765	824,737.970	-9,754.205	-1.20%	-0.382
2015	2	775,860.953	766,946.127	8,914.826	1.15%	0.349
2015	3	839,571.913	832,001.032	7,570.881	0.90%	0.296
2015	4	805,245.802	811,247.393	-6,001.591	-0.75%	-0.235
2015	5	781,222.841	780,243.008	979.833	0.13%	0.038
2015	6	856,568.339	863,413.611	-6,845.272	-0.80%	-0.268
2015	7	886,602.429	909,348.353	-22,745.924	-2.57%	-0.890
2015	8	899,842.809	901,768.779	-1,925.970	-0.21%	-0.075
2015	9	883,578.142	897,914.915	-14,336.773	-1.62%	-0.561
2015	10	878,689.015	854,139.482	24,549.532	2.79%	0.960
2015	11	775,850.377	774,141.364	1,709.014	0.22%	0.067
2015	12	830,052.041	835,288.520	-5,236.479	-0.63%	-0.205
2016	1	783,961.323	798,658.458	-14,697.135	-1.87%	-0.575
2016	2	790,949.865	785,768.499	5,181.366	0.66%	0.203
2016	3	829,796.027	845,779.267	-15,983.241	-1.93%	-0.625

Xcel Energy Minnesota Large Commercial and Industrial
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2016	4	739,747.589	782,990.370	-43,242.781	-5.85%	-1.692
2016	5	826,564.726	789,944.336	36,620.391	4.43%	1.433
2016	6	829,049.640	864,359.038	-35,309.397	-4.26%	-1.381
2016	7	855,820.405	859,238.675	-3,418.270	-0.40%	-0.134
2016	8	951,928.864	944,478.428	7,450.436	0.78%	0.291
2016	9	911,567.974	899,303.139	12,264.835	1.35%	0.480
2016	10	813,468.501	837,019.467	-23,550.966	-2.90%	-0.921
2016	11	793,111.480	793,545.668	-434.189	-0.05%	-0.017
2016	12	825,309.414	807,925.779	17,383.635	2.11%	0.680
2017	1	841,682.906	828,079.142	13,603.764	1.62%	0.532
2017	2	754,283.672	767,629.517	-13,345.845	-1.77%	-0.522
2017	3	821,717.706	851,152.506	-29,434.800	-3.58%	-1.152
2017	4	767,559.860	766,204.491	1,355.369	0.18%	0.053
2017	5	832,335.519	824,602.162	7,733.357	0.93%	0.303
2017	6	851,402.370	866,649.015	-15,246.645	-1.79%	-0.596
2017	7	853,101.258	868,008.725	-14,907.467	-1.75%	-0.583
2017	8	902,890.932	945,562.732	-42,671.800	-4.73%	-1.669
2017	9	857,637.232	875,981.989	-18,344.757	-2.14%	-0.718
2017	10	877,377.173	857,466.603	19,910.570	2.27%	0.779
2017	11	789,421.426	806,108.858	-16,687.431	-2.11%	-0.653
2017	12	800,777.266	810,323.233	-9,545.967	-1.19%	-0.373
2018	1	839,454.714	796,350.062	43,104.652	5.13%	1.686
2018	2	785,558.658	744,399.327	41,159.331	5.24%	1.610
2018	3	812,311.679	810,267.936	2,043.743	0.25%	0.080
2018	4	789,636.723	765,873.676	23,763.047	3.01%	0.930
2018	5	822,252.688	799,730.615	22,522.074	2.74%	0.881
2018	6	854,966.914	821,653.562	33,313.352	3.90%	1.303
2018	7	904,371.625	872,637.569	31,734.055	3.51%	1.242
2018	8	960,012.864	928,885.109	31,127.755	3.24%	1.218
2018	9	851,706.491	843,075.010	8,631.480	1.01%	0.338
2018	10	881,091.471	858,845.656	22,245.814	2.52%	0.870
2018	11	746,222.063	783,130.278	-36,908.215	-4.95%	-1.444
2018	12	831,533.130	782,805.000	48,728.130	5.86%	1.906
2019	1	817,161.322	806,147.403	11,013.919	1.35%	0.431
2019	2	709,112.783	745,790.696	-36,677.913	-5.17%	-1.435
2019	3	838,377.800	779,934.488	58,443.312	6.97%	2.286
2019	4	797,112.803	793,331.755	3,781.048	0.47%	0.148
2019	5	793,356.643	797,339.925	-3,983.283	-0.50%	-0.156
2019	6	773,476.985	794,271.302	-20,794.317	-2.69%	-0.814
2019	7	832,823.610	882,095.217	-49,271.607	-5.92%	-1.928
2019	8	849,841.586	891,896.580	-42,054.994	-4.95%	-1.645
2019	9	841,132.257	848,977.697	-7,845.440	-0.93%	-0.307
2019	10	797,115.429	846,965.368	-49,849.939	-6.25%	-1.950
2019	11	705,898.755	735,269.312	-29,370.557	-4.16%	-1.149
2019	12	794,076.794	806,313.215	-12,236.420	-1.54%	-0.479
2020	1	778,404.610	786,803.798	-8,399.188	-1.08%	-0.329
2020	2	707,759.482	731,919.814	-24,160.332	-3.41%	-0.945
2020	3	760,272.940	770,775.383	-10,502.444	-1.38%	-0.411
2020	4	690,728.872	729,780.015	-39,051.143	-5.65%	-1.528
2020	5	657,670.169	675,177.472	-17,507.303	-2.66%	-0.685
2020	6		769,342.273			
2020	7		828,287.337			
2020	8		832,681.882			

Xcel Energy Minnesota Large Commercial and Industrial
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2020	9		829,533.697			
2020	10		790,370.144			
2020	11		708,361.873			
2020	12		776,161.622			
2021	1		745,039.031			
2021	2		715,121.695			
2021	3		801,712.976			
2021	4		764,278.753			
2021	5		736,373.802			
2021	6		826,657.956			
2021	7		850,164.775			
2021	8		892,543.888			
2021	9		865,517.598			
2021	10		802,522.861			
2021	11		763,448.433			
2021	12		800,277.097			
2022	1		771,562.783			
2022	2		734,110.992			
2022	3		824,106.309			
2022	4		760,958.066			
2022	5		774,097.566			
2022	6		838,921.776			
2022	7		843,360.420			
2022	8		926,327.863			
2022	9		879,994.700			
2022	10		817,578.593			
2022	11		779,792.990			
2022	12		814,468.082			
2023	1		785,020.590			
2023	2		748,966.208			
2023	3		835,938.904			
2023	4		753,433.520			
2023	5		807,582.580			
2023	6		849,337.037			
2023	7		854,852.609			
2023	8		933,925.603			
2023	9		867,511.332			
2023	10		845,380.817			
2023	11		787,514.105			
2023	12		821,914.811			
2024	1		809,947.846			
2024	2		756,574.364			
2024	3		820,000.529			
2024	4		799,882.390			
2024	5		771,538.611			
2024	6		854,515.450			
2024	7		901,963.599			
2024	8		897,264.393			
2024	9		891,889.793			
2024	10		850,546.746			
2024	11		766,365.537			
2024	12		830,611.824			
2025	1		795,935.900			

Xcel Energy Minnesota Large Commercial and Industrial
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2025	2		762,465.247			
2025	3		845,831.340			
2025	4		805,171.930			
2025	5		774,041.791			
2025	6		862,624.591			
2025	7		884,430.056			
2025	8		925,107.815			
2025	9		897,566.264			
2025	10		834,056.267			
2025	11		794,466.578			
2025	12		830,705.996			

Xcel Energy Minnesota Public Street and Highway Lighting
Test Year 2021-2025 MWh Electric Sales

Variable	Coefficient	StdErr	T-Stat	P-Value	Definition
CONST	6687.054	1691.588	3.953	0.01%	Constant term
NR_MSP	2.407	0.502	4.798	0.00%	Total population, Minneapolis-St. Paul-Bloomington, MN-WI, thousands, U.S. Census Bureau
Jan	660.479	270.574	2.441	1.55%	Binary variable January=1, otherwise=0
Feb	-1406.872	270.547	31095.313	0.00%	Binary variable February=1, otherwise=0
Mar	-1828.951	266.804	-6.855	0.00%	Binary variable March=1, otherwise=0
Apr	-3502.630	266.802	-13.128	0.00%	Binary variable April=1, otherwise=0
May	-4901.100	266.804	-18.370	0.00%	Binary variable May=1, otherwise=0
Jun	-5895.959	270.600	-21.788	0.00%	Binary variable June=1, otherwise=0
Jul	-6334.051	270.582	-23.409	0.00%	Binary variable July=1, otherwise=0
Aug	-5521.839	270.568	-20.408	0.00%	Binary variable August=1, otherwise=0
Sep	-4396.600	270.556	-16.250	0.00%	Binary variable September=1, otherwise=0
Oct	-2797.281	270.546	-10.339	0.00%	Binary variable October=1, otherwise=0
Nov	-1543.772	274.778	-5.618	0.00%	Binary variable November=1, otherwise=0
Nov2004	7622.304	818.288	9.315	0.00%	Binary variable November 2004=1, otherwise=0
Feb2005	-9515.372	815.982	-11.661	0.00%	Binary variable February 2005=1, otherwise=0
Jan2008	-2522.141	812.579	-3.104	0.22%	Binary variable January 2008=1, otherwise=0
MN_SL_LED_SALES_CONV	-94.949	5.518	-17.207	0.00%	Minnesota Street Light LED Conversion trend starting in October 2015=1

Dependent Variable					Definition
SLS_PS_MN					Minnesota Billed Sales (MWh) for the Public Street and Highway Lighting customer class

Xcel Energy Minnesota Public Street and Highway Lighting
Test Year 2021-2025 MWh Electric Sales

Model Statistics	
Iterations	1
Adjusted Observations	209
Deg. of Freedom for Error	192
R-Squared	0.922
Adjusted R-Squared	0.915
AIC	13.419
BIC	13.691
F-Statistic	141.435
Prob (F-Statistic)	0.0000
Log-Likelihood	-1,681.82
Model Sum of Squares	1,407,845,235.60
Sum of Squared Errors	119,447,810.81
Mean Squared Error	622,124.01
Std. Error of Regression	788.75
Mean Abs. Dev. (MAD)	552.65
Mean Abs. % Err. (MAPE)	5.14%
Durbin-Watson Statistic	1.884
Durbin-H Statistic	#NA
Ljung-Box Statistic	77.04
Prob (Ljung-Box)	0.0000
Skewness	0.038
Kurtosis	4.903
Jarque-Bera	31.598
Prob (Jarque-Bera)	0.0000

Forecast Statistics	
Forecast Observations	0
Mean Abs. Dev. (MAD)	0.00
Mean Abs. % Err. (MAPE)	0.00%
31095.31293	0.00
Mean % Error	0.00%
Root Mean-Square Error	0.00
Theil's Inequality Coefficient	0.0000
-- Bias Proportion	0.00%
-- Variance Proportion	0.00%
-- Covariance Proportion	0.00%

Xcel Energy Minnesota Public Street and Highway Lighting
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2003	1	14,130.173	14,890.666	-760.493	-5.38%	-0.964
2003	2	11,741.449	12,828.773	-1,087.324	-9.26%	-1.379
2003	3	11,438.222	12,412.153	-973.931	-8.51%	-1.235
2003	4	9,358.255	31,095.313	-1,385.677	-14.81%	-1.757
2003	5	8,490.886	9,350.920	-860.034	-10.13%	-1.090
2003	6	7,684.099	8,361.774	-677.675	-8.82%	-0.859
2003	7	8,041.661	7,929.396	112.265	1.40%	0.142
2003	8	9,000.419	8,747.322	253.097	2.81%	0.321
2003	9	10,233.576	9,878.274	355.302	3.47%	0.450
2003	10	12,010.000	11,483.307	526.693	4.39%	0.668
2003	11	12,967.554	12,742.530	225.024	1.74%	0.285
2003	12	14,379.136	14,292.015	87.121	0.61%	0.110
2004	1	13,936.753	14,958.207	-1,021.454	-7.33%	-1.295
2004	2	11,637.595	12,896.569	-1,258.974	-10.82%	-1.596
2004	3	11,300.361	12,480.204	-1,179.843	-10.44%	-1.496
2004	4	9,404.632	10,812.238	-1,407.606	-14.97%	-1.785
2004	5	8,677.116	9,419.482	-742.366	-8.56%	-0.941
2004	6	7,824.804	8,430.066	-605.262	-7.74%	-0.767
2004	7	8,233.303	7,997.419	235.884	2.87%	0.299
2004	8	9,894.535	8,815.074	1,079.461	10.91%	1.369
2004	9	10,377.777	9,945.757	432.020	4.16%	0.548
2004	10	12,416.486	11,550.520	865.966	6.97%	1.098
2004	11	20,431.777	20,431.777	0.000	0.00%	0.000
2004	12	15,643.359	14,358.688	1,284.671	8.21%	1.629
2005	1	15,364.313	15,024.611	339.702	2.21%	0.431
2005	2	3,447.332	3,447.332	0.000	0.00%	0.000
2005	3	12,810.801	12,546.068	264.733	2.07%	0.336
2005	4	12,228.550	10,877.833	1,350.717	11.05%	1.712
2005	5	11,027.582	9,484.807	1,542.775	13.99%	1.956
2005	6	8,421.651	8,497.031	-75.380	-0.90%	-0.096
2005	7	8,984.609	8,066.024	918.585	10.22%	1.165
2005	8	8,515.000	8,885.319	-370.319	-4.35%	-0.470
2005	9	11,674.154	10,017.642	1,656.512	14.19%	2.100
2005	10	12,521.207	11,624.045	897.162	7.17%	1.137
2005	11	14,163.571	12,884.637	1,278.934	9.03%	1.621
2005	12	17,416.000	14,435.493	2,980.507	17.11%	3.779
2006	1	14,951.194	15,103.055	-151.861	-1.02%	-0.193
2006	2	12,736.202	13,042.788	-306.586	-2.41%	-0.389
2006	3	12,057.903	12,627.792	-569.889	-4.73%	-0.723
2006	4	10,432.392	10,961.197	-528.805	-5.07%	-0.670
2006	5	9,571.105	9,569.811	1.294	0.01%	0.002
2006	6	8,424.684	8,582.020	-157.336	-1.87%	-0.199
2006	7	7,846.324	8,150.997	-304.673	-3.88%	-0.386
2006	8	9,283.720	8,970.278	313.442	3.38%	0.397
2006	9	8,474.070	10,102.586	-1,628.515	-19.22%	-2.065
2006	10	12,482.630	11,708.973	773.657	6.20%	0.981
2006	11	12,441.272	12,969.551	-528.279	-4.25%	-0.670
2006	12	13,186.709	14,520.391	-1,333.682	-10.11%	-1.691
2007	1	16,356.598	15,187.939	1,168.659	7.14%	1.482
2007	2	13,423.656	13,127.656	296.000	2.21%	0.375
2007	3	12,307.567	12,712.646	-405.079	-3.29%	-0.514
2007	4	10,953.823	11,046.036	-92.213	-0.84%	-0.117
2007	5	9,369.852	9,654.634	-284.782	-3.04%	-0.361

Xcel Energy Minnesota Public Street and Highway Lighting
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2007	6	8,380.592	8,666.120	-285.528	-3.41%	-0.362
2007	7	7,213.106	8,234.374	-1,021.268	-14.16%	-1.295
2007	8	9,333.251	9,052.931	280.320	3.00%	0.355
2007	9	9,608.703	10,184.515	-575.812	-5.99%	-0.730
2007	10	11,784.029	11,790.180	-6.151	-0.05%	-0.008
2007	11	12,624.320	13,050.034	-425.714	-3.37%	-0.540
2007	12	14,052.441	14,600.151	-547.710	-3.90%	-0.694
2008	1	12,744.834	12,744.834	0.000	0.00%	0.000
2008	2	15,000.458	13,205.969	1,794.489	11.96%	2.275
2008	3	12,347.249	12,790.235	-442.986	-3.59%	-0.562
2008	4	11,534.268	11,122.902	411.366	3.57%	0.522
2008	5	9,279.552	9,730.777	-451.225	-4.86%	-0.572
2008	6	8,478.678	8,741.785	-263.107	-3.10%	-0.334
2008	7	8,428.808	8,309.561	119.247	1.41%	0.151
2008	8	8,543.196	9,127.640	-584.444	-6.84%	-0.741
2008	9	10,349.830	10,258.746	91.084	0.88%	0.115
2008	10	11,356.243	11,863.933	-507.690	-4.47%	-0.644
2008	11	13,675.623	13,123.309	552.314	4.04%	0.700
2008	12	14,537.045	14,672.948	-135.903	-0.93%	-0.172
2009	1	15,571.747	15,339.294	232.453	1.49%	0.295
2009	2	13,446.434	13,277.811	168.623	1.25%	0.214
2009	3	12,867.049	12,861.599	5.450	0.04%	0.007
2009	4	11,300.037	11,193.787	106.250	0.94%	0.135
2009	5	9,171.835	9,801.185	-629.350	-6.86%	-0.798
2009	6	9,069.958	8,811.234	258.724	2.85%	0.328
2009	7	8,376.211	8,378.052	-1.841	-0.02%	-0.002
2009	8	9,130.649	9,195.173	-64.524	-0.71%	-0.082
2009	9	10,039.388	10,325.322	-285.934	-2.85%	-0.363
2009	10	11,614.636	11,929.550	-314.914	-2.71%	-0.399
2009	11	13,067.008	13,187.968	-120.960	-0.93%	-0.153
2009	12	14,081.914	14,736.649	-654.735	-4.65%	-0.830
2010	1	15,338.939	15,402.037	-63.098	-0.41%	-0.080
2010	2	13,650.728	13,339.595	311.133	2.28%	0.394
2010	3	13,157.800	12,922.648	235.152	1.79%	0.298
2010	4	11,145.884	11,254.100	-108.216	-0.97%	-0.137
2010	5	9,367.104	9,860.762	-493.658	-5.27%	-0.626
2010	6	9,261.745	8,872.580	389.165	4.20%	0.493
2010	7	8,515.440	8,441.165	74.275	0.87%	0.094
2010	8	9,222.895	9,260.054	-37.159	-0.40%	-0.047
2010	9	10,524.006	10,391.970	132.036	1.25%	0.167
2010	10	11,529.161	11,997.967	-468.806	-4.07%	-0.594
2010	11	13,660.172	13,258.153	402.019	2.94%	0.510
2010	12	14,563.826	14,808.601	-244.775	-1.68%	-0.310
2011	1	16,659.503	15,475.757	1,183.746	7.11%	1.501
2011	2	13,917.525	13,415.083	502.442	3.61%	0.637
2011	3	13,396.475	12,999.681	396.794	2.96%	0.503
2011	4	10,945.257	11,332.679	-387.422	-3.54%	-0.491
2011	5	10,340.652	9,940.886	399.766	3.87%	0.507
2011	6	9,174.966	8,952.539	222.427	2.42%	0.282
2011	7	8,433.935	8,520.961	-87.026	-1.03%	-0.110
2011	8	9,035.347	9,339.685	-304.338	-3.37%	-0.386
2011	9	10,744.304	10,471.438	272.866	2.54%	0.346
2011	10	12,240.792	12,077.270	163.522	1.34%	0.207

Xcel Energy Minnesota Public Street and Highway Lighting
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2011	11	13,574.427	13,337.292	237.135	1.75%	0.301
2011	12	14,678.359	14,887.576	-209.217	-1.43%	-0.265
2012	1	16,580.110	15,554.568	1,025.542	6.19%	1.300
2012	2	14,411.054	13,493.730	917.324	6.37%	1.163
2012	3	13,074.207	13,078.164	-3.957	-0.03%	-0.005
2012	4	10,427.767	11,410.998	-983.231	-9.43%	-1.247
2012	5	11,062.085	10,019.040	1,043.045	9.43%	1.322
2012	6	9,363.310	9,031.161	332.149	3.55%	0.421
2012	7	8,695.308	8,600.050	95.258	1.10%	0.121
2012	8	9,252.646	9,419.242	-166.596	-1.80%	-0.211
2012	9	10,168.695	10,551.462	-382.767	-3.76%	-0.485
2012	10	12,308.153	12,157.761	150.393	1.22%	0.191
2012	11	13,817.235	13,418.250	398.985	2.89%	0.506
2012	12	15,567.053	14,969.002	598.051	3.84%	0.758
2013	1	16,549.207	15,636.461	912.746	5.52%	1.157
2013	2	13,955.081	13,576.090	378.991	2.72%	0.480
2013	3	13,021.471	13,160.991	-139.520	-1.07%	-0.177
2013	4	12,519.360	11,494.292	1,025.068	8.19%	1.300
2013	5	10,118.515	10,102.802	15.713	0.16%	0.020
2013	6	8,646.034	9,115.020	-468.986	-5.42%	-0.595
2013	7	9,127.534	8,684.005	443.529	4.86%	0.562
2013	8	9,372.200	9,503.293	-131.093	-1.40%	-0.166
2013	9	10,808.983	10,635.609	173.374	1.60%	0.220
2013	10	12,165.510	12,242.005	-76.495	-0.63%	-0.097
2013	11	13,009.232	13,502.591	-493.359	-3.79%	-0.625
2013	12	16,128.016	15,053.439	1,074.577	6.66%	1.362
2014	1	16,352.786	15,720.995	631.791	3.86%	0.801
2014	2	13,616.320	13,660.720	-44.400	-0.33%	-0.056
2014	3	13,821.730	13,245.718	576.012	4.17%	0.730
2014	4	11,656.308	11,579.115	77.193	0.66%	0.098
2014	5	9,889.429	10,187.722	-298.293	-3.02%	-0.378
2014	6	9,339.286	9,198.377	140.909	1.51%	0.179
2014	7	8,663.165	8,765.799	-102.634	-1.18%	-0.130
2014	8	8,675.595	9,583.525	-907.930	-10.47%	-1.151
2014	9	11,152.734	10,714.278	438.456	3.93%	0.556
2014	10	11,555.383	12,319.111	-763.728	-6.61%	-0.968
2014	11	13,014.621	13,578.134	-563.513	-4.33%	-0.714
2014	12	15,829.741	15,127.420	702.321	4.44%	0.890
2015	1	16,482.912	15,793.413	689.499	4.18%	0.874
2015	2	11,496.875	13,731.576	-2,234.701	-19.44%	-2.833
2015	3	15,733.859	13,315.010	2,418.849	15.37%	3.067
2015	4	11,154.162	11,646.845	-492.683	-4.42%	-0.625
2015	5	9,435.186	10,253.889	-818.703	-8.68%	-1.038
2015	6	9,111.068	9,265.994	-154.926	-1.70%	-0.196
2015	7	7,204.286	8,834.866	-1,630.580	-22.63%	-2.067
2015	8	9,311.540	9,654.041	-342.501	-3.68%	-0.434
2015	9	9,324.745	10,786.244	-1,461.499	-15.67%	-1.853
2015	10	11,390.250	12,297.578	-907.328	-7.97%	-1.150
2015	11	13,499.924	13,463.101	36.823	0.27%	0.047
2015	12	14,394.565	14,918.887	-524.322	-3.64%	-0.665
2016	1	14,650.339	15,491.380	-841.041	-5.74%	-1.066
2016	2	14,144.707	13,336.044	808.663	5.72%	1.025
2016	3	12,933.262	12,825.979	107.283	0.83%	0.136

Xcel Energy Minnesota Public Street and Highway Lighting
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2016	4	12,014.829	11,064.315	950.514	7.91%	1.205
2016	5	9,663.735	9,577.859	85.876	0.89%	0.109
2016	6	8,123.513	8,495.524	-372.011	-4.58%	-0.472
2016	7	7,466.378	7,969.955	-503.577	-6.74%	-0.638
2016	8	8,608.049	8,694.690	-86.641	-1.01%	-0.110
2016	9	9,359.722	9,732.453	-372.731	-3.98%	-0.473
2016	10	12,318.745	11,244.296	1,074.449	8.72%	1.362
2016	11	11,135.323	12,410.328	-1,275.005	-11.45%	-1.616
2016	12	14,446.592	13,866.623	579.969	4.01%	0.735
2017	1	13,098.081	14,439.625	-1,341.544	-10.24%	-1.701
2017	2	12,601.604	12,284.797	316.807	2.51%	0.402
2017	3	11,764.222	11,775.241	-11.019	-0.09%	-0.014
2017	4	10,550.959	10,014.086	536.873	5.09%	0.681
2017	5	8,467.403	8,528.139	-60.736	-0.72%	-0.077
2017	6	7,371.780	7,445.242	-73.462	-1.00%	-0.093
2017	7	7,418.926	6,919.112	499.814	6.74%	0.634
2017	8	8,372.924	7,643.286	729.638	8.71%	0.925
2017	9	8,022.765	8,680.487	-657.722	-8.20%	-0.834
2017	10	10,346.889	10,191.768	155.121	1.50%	0.197
2017	11	12,094.584	11,357.239	737.345	6.10%	0.935
2017	12	9,956.722	12,812.973	-2,856.251	-28.69%	-3.621
2018	1	13,779.984	13,385.414	394.570	2.86%	0.500
2018	2	11,176.442	11,230.025	-53.583	-0.48%	-0.068
2018	3	10,704.689	10,719.908	-15.219	-0.14%	-0.019
2018	4	9,268.339	8,958.191	310.148	3.35%	0.393
2018	5	8,152.152	7,471.682	680.470	8.35%	0.863
2018	6	7,413.874	6,387.861	1,026.013	13.84%	1.301
2018	7	6,031.206	5,860.807	170.399	2.83%	0.216
2018	8	6,455.817	6,584.056	-128.239	-1.99%	-0.163
2018	9	9,392.491	7,620.333	1,772.158	18.87%	2.247
2018	10	7,659.050	9,130.689	-1,471.639	-19.21%	-1.866
2018	11	10,647.452	10,295.236	352.216	3.31%	0.447
2018	12	11,935.055	11,750.045	185.010	1.55%	0.235
2019	1	10,598.487	12,321.561	-1,723.074	-16.26%	-2.185
2019	2	9,601.362	10,165.247	-563.885	-5.87%	-0.715
2019	3	9,590.813	9,654.206	-63.393	-0.66%	-0.080
2019	4	7,996.076	7,891.564	104.512	1.31%	0.133
2019	5	6,793.752	6,404.131	389.621	5.73%	0.494
2019	6	6,132.001	5,367.714	764.287	12.46%	0.969
2019	7	5,870.406	4,888.063	982.343	16.73%	1.245
2019	8	6,126.542	5,658.717	467.825	7.64%	0.593
2019	9	6,783.498	6,742.325	41.173	0.61%	0.052
2019	10	8,209.800	8,300.012	-90.212	-1.10%	-0.114
2019	11	8,697.925	9,511.890	-813.965	-9.36%	-1.032
2019	12	10,028.065	11,013.699	-985.634	-9.83%	-1.250
2020	1	10,979.808	11,655.952	-676.144	-6.16%	-0.857
2020	2	9,625.356	9,570.375	54.981	0.57%	0.070
2020	3	8,929.917	9,129.354	-199.437	-2.23%	-0.253
2020	4	7,949.946	7,436.733	513.213	6.46%	0.651
2020	5	6,499.909	6,019.321	480.588	7.39%	0.609
2020	6		5,005.534			
2020	7		4,548.515			
2020	8		5,341.799			

Xcel Energy Minnesota Public Street and Highway Lighting
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2020	9		6,448.254			
2020	10		8,028.789			
2020	11		9,263.514			
2020	12		10,788.584			
2021	1		11,454.098			
2021	2		9,391.782			
2021	3		8,974.876			
2021	4		7,306.370			
2021	5		5,913.073			
2021	6		4,923.483			
2021	7		4,490.660			
2021	8		5,308.141			
2021	9		6,438.793			
2021	10		8,043.524			
2021	11		9,302.446			
2021	12		10,851.800			
2022	1		11,517.861			
2022	2		9,456.092			
2022	3		9,039.696			
2022	4		7,371.700			
2022	5		5,978.912			
2022	6		4,989.757			
2022	7		4,557.370			
2022	8		5,375.287			
2022	9		6,506.211			
2022	10		8,111.214			
2022	11		9,370.408			
2022	12		10,919.152			
2023	1		11,584.603			
2023	2		9,522.224			
2023	3		9,105.068			
2023	4		7,436.311			
2023	5		6,042.763			
2023	6		5,052.806			
2023	7		4,619.616			
2023	8		5,436.730			
2023	9		6,566.870			
2023	10		8,171.091			
2023	11		9,429.501			
2023	12		10,978.127			
2024	1		11,643.460			
2024	2		9,580.964			
2024	3		9,163.716			
2024	4		7,494.868			
2024	5		6,101.228			
2024	6		5,111.155			
2024	7		4,677.849			
2024	8		5,494.846			
2024	9		6,624.864			
2024	10		8,228.963			
2024	11		9,487.251			
2024	12		11,035.768			

Xcel Energy Minnesota Other Public Authority
Test Year 2021-2025 MWh Electric Sales

Variable	Coefficient	StdErr	T-Stat	P-Value	Definition
NR_MN	-2.480	0.822	-3.018	0.29%	Total population, Minnesota, thousands, U.S. Census Bureau
BillDaysCellnet21	189.202	37.205	5.085	0.00%	Average number of billing days per month
AfterApr2011	-687.608	269.429	-2.552	1.15%	Binary variable after April 2011=1, otherwise=0
Jan	13556.171	4533.181	31095.313	0.32%	Binary variable January=1, otherwise=0
Feb	13722.060	4473.516	3.067	0.25%	Binary variable February=1, otherwise=0
Mar	13655.726	4506.954	3.030	0.28%	Binary variable March=1, otherwise=0
Apr	13514.272	4497.543	3.005	0.30%	Binary variable April=1, otherwise=0
May	13704.135	4487.032	3.054	0.26%	Binary variable May=1, otherwise=0
Jun	14137.676	4495.519	3.145	0.20%	Binary variable June=1, otherwise=0
Jul	15255.242	4493.314	3.395	0.09%	Binary variable July=1, otherwise=0
Aug	16280.672	4497.873	3.620	0.04%	Binary variable August=1, otherwise=0
Sep	15442.794	4487.130	3.442	0.07%	Binary variable September=1, otherwise=0
Oct	14536.206	4504.283	3.227	0.15%	Binary variable October=1, otherwise=0
Nov	13769.530	4469.991	3.080	0.24%	Binary variable November=1, otherwise=0
Dec	13336.429	4508.999	2.958	0.35%	Binary variable December=1, otherwise=0
AR(1)	0.238	0.071	3.333	0.11%	First order autoregressive correction term
SAR(1)	0.256	0.067	3.798	0.02%	First order seasonal autoregressive correction term

Dependent Variable					Definition

Xcel Energy Minnesota Other Public Authority
Test Year 2021-2025 MWh Electric Sales

Model Statistics	
Iterations	12
Adjusted Observations	196
Deg. of Freedom for Error	179
R-Squared	0.795
Adjusted R-Squared	0.776
AIC	13.168
BIC	13.452
F-Statistic	#NA
Prob (F-Statistic)	#NA
Log-Likelihood	-1,551.59
Model Sum of Squares	333,579,592.05
Sum of Squared Errors	86,252,696.38
Mean Squared Error	481,858.64
Std. Error of Regression	694.16
Mean Abs. Dev. (MAD)	470.09
Mean Abs. % Err. (MAPE)	7.33%
Durbin-Watson Statistic	2.027
Durbin-H Statistic	#NA
Ljung-Box Statistic	49.14
Prob (Ljung-Box)	0.0018
Skewness	1.032
Kurtosis	8.994
Jarque-Bera	328.226
Prob (Jarque-Bera)	0.0000

Forecast Statistics	
Forecast Observations	0
Mean Abs. Dev. (MAD)	0.00
Mean Abs. % Err. (MAPE)	0.00%
31095.31293	0.00
Mean % Error	0.00%
Root Mean-Square Error	0.00
Theil's Inequality Coefficient	0.0000
-- Bias Proportion	0.00%
-- Variance Proportion	0.00%
-- Covariance Proportion	0.00%

Xcel Energy Minnesota Other Public Authority
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2003	1	8,131.741				
2003	2	7,565.238				
2003	3	7,596.538				
2003	4	7,373.155	31,095.313			
2003	5	7,694.953				
2003	6	8,742.137				
2003	7	9,685.084				
2003	8	11,036.375				
2003	9	12,647.811				
2003	10	9,401.905				
2003	11	7,214.798				
2003	12	7,399.860				
2004	1	7,690.406				
2004	2	7,307.352	6,973.612	333.740	4.57%	0.481
2004	3	6,791.094	6,932.865	-141.771	-2.09%	-0.204
2004	4	7,085.952	6,815.751	270.201	3.81%	0.389
2004	5	7,072.641	6,987.104	85.537	1.21%	0.123
2004	6	7,920.725	7,730.842	189.883	2.40%	0.274
2004	7	8,920.784	8,756.624	164.160	1.84%	0.236
2004	8	9,573.011	9,741.007	-167.996	-1.75%	-0.242
2004	9	9,268.337	9,560.024	-291.687	-3.15%	-0.420
2004	10	7,598.835	7,905.197	-306.362	-4.03%	-0.441
2004	11	6,764.148	6,734.528	29.620	0.44%	0.043
2004	12	6,819.425	6,941.915	-122.490	-1.80%	-0.176
2005	1	8,420.477	7,231.610	1,188.867	14.12%	1.713
2005	2	4,627.197	6,773.320	-2,146.123	-46.38%	-3.092
2005	3	5,863.526	6,446.849	-583.323	-9.95%	-0.840
2005	4	7,170.119	6,458.677	711.442	9.92%	1.025
2005	5	6,460.286	6,793.215	-332.929	-5.15%	-0.480
2005	6	8,866.131	7,597.368	1,268.763	14.31%	1.828
2005	7	7,631.150	8,486.604	-855.454	-11.21%	-1.232
2005	8	13,506.000	9,640.962	3,865.038	28.62%	5.568
2005	9	9,096.472	9,560.803	-464.331	-5.10%	-0.669
2005	10	7,494.998	7,531.629	-36.631	-0.49%	-0.053
2005	11	7,910.924	6,436.022	1,474.902	18.64%	2.125
2005	12	6,242.000	6,745.117	-503.117	-8.06%	-0.725
2006	1	7,351.950	7,350.698	1.252	0.02%	0.002
2006	2	6,325.673	5,793.433	532.240	8.41%	0.767
2006	3	7,203.564	6,822.637	380.927	5.29%	0.549
2006	4	5,904.076	6,149.307	-245.231	-4.15%	-0.353
2006	5	7,135.962	6,825.991	309.971	4.34%	0.447
2006	6	8,599.104	7,802.237	796.867	9.27%	1.148
2006	7	10,140.943	8,067.455	2,073.488	20.45%	2.987
2006	8	11,333.722	11,086.077	247.645	2.19%	0.357
2006	9	8,437.982	8,466.779	-28.797	-0.34%	-0.041
2006	10	7,496.316	7,620.244	-123.928	-1.65%	-0.179
2006	11	6,039.233	6,680.714	-641.481	-10.62%	-0.924
2006	12	6,130.232	5,775.155	355.077	5.79%	0.512
2007	1	7,358.124	7,368.807	-10.683	-0.15%	-0.015
2007	2	5,716.821	6,163.120	-446.299	-7.81%	-0.643
2007	3	7,458.776	6,540.814	917.962	12.31%	1.322
2007	4	7,645.313	6,323.250	1,322.063	17.29%	1.905
2007	5	7,181.252	7,124.824	56.428	0.79%	0.081

Xcel Energy Minnesota Other Public Authority
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2007	6	5,260.303	7,419.032	-2,158.729	-41.04%	-3.110
2007	7	9,945.786	8,210.169	1,735.617	17.45%	2.500
2007	8	11,180.911	10,191.434	989.477	8.85%	1.425
2007	9	7,291.552	8,144.526	-852.974	-11.70%	-1.229
2007	10	7,869.178	7,570.196	298.982	3.80%	0.431
2007	11	5,479.928	6,199.408	-719.480	-13.13%	-1.036
2007	12	6,230.586	5,766.348	464.238	7.45%	0.669
2008	1	6,348.694	7,209.075	-860.381	-13.55%	-1.239
2008	2	6,513.434	5,998.505	514.929	7.91%	0.742
2008	3	6,108.036	6,350.414	-242.378	-3.97%	-0.349
2008	4	5,890.511	6,870.164	-979.653	-16.63%	-1.411
2008	5	6,194.260	6,166.855	27.405	0.44%	0.039
2008	6	6,088.780	6,420.659	-331.879	-5.45%	-0.478
2008	7	7,958.535	8,662.125	-703.590	-8.84%	-1.014
2008	8	9,516.255	8,818.856	697.399	7.33%	1.005
2008	9	9,459.255	8,502.959	956.296	10.11%	1.378
2008	10	7,150.092	7,865.496	-715.404	-10.01%	-1.031
2008	11	4,165.246	5,187.994	-1,022.748	-24.55%	-1.473
2008	12	5,932.340	6,300.012	-367.672	-6.20%	-0.530
2009	1	5,904.093	6,375.004	-470.911	-7.98%	-0.678
2009	2	5,201.949	5,851.529	-649.580	-12.49%	-0.936
2009	3	5,767.891	6,236.040	-468.149	-8.12%	-0.674
2009	4	5,908.611	5,844.974	63.637	1.08%	0.092
2009	5	5,704.346	5,975.606	-271.260	-4.76%	-0.391
2009	6	8,225.208	6,814.400	1,410.808	17.15%	2.032
2009	7	8,752.395	8,451.807	300.588	3.43%	0.433
2009	8	8,769.913	9,142.614	-372.701	-4.25%	-0.537
2009	9	7,268.484	8,278.350	-1,009.866	-13.89%	-1.455
2009	10	7,547.472	6,920.732	626.740	8.30%	0.903
2009	11	5,375.916	5,456.430	-80.514	-1.50%	-0.116
2009	12	5,763.485	6,227.864	-464.379	-8.06%	-0.669
2010	1	5,772.109	6,053.252	-281.143	-4.87%	-0.405
2010	2	5,755.410	5,591.595	163.815	2.85%	0.236
2010	3	6,184.276	6,447.781	-263.505	-4.26%	-0.380
2010	4	5,525.995	6,045.261	-519.266	-9.40%	-0.748
2010	5	5,426.347	5,611.826	-185.479	-3.42%	-0.267
2010	6	7,254.918	7,270.988	-16.070	-0.22%	-0.023
2010	7	6,712.465	7,968.734	-1,256.269	-18.72%	-1.810
2010	8	7,545.071	8,662.463	-1,117.392	-14.81%	-1.610
2010	9	7,368.481	7,469.309	-100.828	-1.37%	-0.145
2010	10	5,963.574	6,896.098	-932.524	-15.64%	-1.343
2010	11	5,700.973	5,592.510	108.463	1.90%	0.156
2010	12	5,801.809	5,800.997	0.812	0.01%	0.001
2011	1	6,454.082	6,417.822	36.259	0.56%	0.052
2011	2	5,272.893	5,759.270	-486.377	-9.22%	-0.701
2011	3	6,154.114	6,273.558	-119.444	-1.94%	-0.172
2011	4	5,746.992	5,403.201	343.791	5.98%	0.495
2011	5	6,021.028	5,507.150	513.878	8.53%	0.740
2011	6	5,907.685	6,446.764	-539.079	-9.13%	-0.777
2011	7	6,754.495	6,629.672	124.823	1.85%	0.180
2011	8	7,283.789	7,896.781	-612.992	-8.42%	-0.883
2011	9	7,233.142	6,944.787	288.355	3.99%	0.415
2011	10	6,967.809	5,957.440	1,010.369	14.50%	1.456

Xcel Energy Minnesota Other Public Authority
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2011	11	5,379.389	5,364.968	14.421	0.27%	0.021
2011	12	5,033.012	5,181.249	-148.237	-2.95%	-0.214
2012	1	5,328.588	5,777.785	-449.197	-8.43%	-0.647
2012	2	4,799.214	5,035.467	-236.253	-4.92%	-0.340
2012	3	4,706.284	5,296.876	-590.592	-12.55%	-0.851
2012	4	4,329.705	4,883.767	-554.062	-12.80%	-0.798
2012	5	5,209.702	5,545.128	-335.426	-6.44%	-0.483
2012	6	5,846.341	5,691.249	155.092	2.65%	0.223
2012	7	7,385.460	6,979.258	406.202	5.50%	0.585
2012	8	8,270.228	8,185.919	84.309	1.02%	0.121
2012	9	7,529.852	6,690.049	839.804	11.15%	1.210
2012	10	7,577.162	7,026.523	550.639	7.27%	0.793
2012	11	4,906.583	5,360.064	-453.481	-9.24%	-0.653
2012	12	4,933.062	4,685.236	247.826	5.02%	0.357
2013	1	5,283.695	5,920.475	-636.780	-12.05%	-0.917
2013	2	4,781.849	4,665.324	116.525	2.44%	0.168
2013	3	5,317.398	4,654.643	662.755	12.46%	0.955
2013	4	5,150.923	5,489.732	-338.809	-6.58%	-0.488
2013	5	5,130.985	5,305.662	-174.677	-3.40%	-0.252
2013	6	4,904.890	5,473.567	-568.677	-11.59%	-0.819
2013	7	6,046.994	7,149.107	-1,102.113	-18.23%	-1.588
2013	8	7,778.826	7,667.846	110.980	1.43%	0.160
2013	9	8,177.335	7,028.928	1,148.407	14.04%	1.654
2013	10	7,444.261	7,003.194	441.067	5.92%	0.635
2013	11	4,646.212	4,757.736	-111.524	-2.40%	-0.161
2013	12	4,815.782	5,130.761	-314.979	-6.54%	-0.454
2014	1	5,725.575	5,655.988	69.587	1.22%	0.100
2014	2	4,878.774	4,636.111	242.663	4.97%	0.350
2014	3	5,722.949	5,380.108	342.841	5.99%	0.494
2014	4	4,938.672	5,139.733	-201.061	-4.07%	-0.290
2014	5	4,913.665	4,986.500	-72.835	-1.48%	-0.105
2014	6	5,353.353	5,541.041	-187.688	-3.51%	-0.270
2014	7	6,065.070	6,751.659	-686.589	-11.32%	-0.989
2014	8	6,762.896	7,404.270	-641.374	-9.48%	-0.924
2014	9	7,185.102	7,194.976	-9.874	-0.14%	-0.014
2014	10	5,790.667	6,574.476	-783.809	-13.54%	-1.129
2014	11	4,266.707	4,101.493	165.214	3.87%	0.238
2014	12	5,118.007	5,217.473	-99.466	-1.94%	-0.143
2015	1	5,334.107	5,459.687	-125.580	-2.35%	-0.181
2015	2	4,742.561	4,609.935	132.626	2.80%	0.191
2015	3	5,260.980	5,541.813	-280.833	-5.34%	-0.405
2015	4	4,513.529	4,945.760	-432.231	-9.58%	-0.623
2015	5	4,493.071	4,591.155	-98.084	-2.18%	-0.141
2015	6	5,246.943	5,762.394	-515.451	-9.82%	-0.743
2015	7	5,604.304	6,627.530	-1,023.226	-18.26%	-1.474
2015	8	6,096.284	7,059.460	-963.176	-15.80%	-1.388
2015	9	5,778.208	6,631.729	-853.521	-14.77%	-1.230
2015	10	5,501.789	5,660.629	-158.840	-2.89%	-0.229
2015	11	4,447.896	4,396.737	51.159	1.15%	0.074
2015	12	4,754.576	5,108.779	-354.203	-7.45%	-0.510
2016	1	4,817.852	5,031.685	-213.833	-4.44%	-0.308
2016	2	4,763.762	4,762.406	1.356	0.03%	0.002
2016	3	4,990.215	5,474.333	-484.118	-9.70%	-0.697

Xcel Energy Minnesota Other Public Authority
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2016	4	4,079.878	4,438.665	-358.787	-8.79%	-0.517
2016	5	4,512.549	4,724.996	-212.447	-4.71%	-0.306
2016	6	5,549.931	5,569.443	-19.512	-0.35%	-0.028
2016	7	6,155.566	5,988.028	167.538	2.72%	0.241
2016	8	7,319.483	7,664.833	-345.350	-4.72%	-0.498
2016	9	6,068.792	6,447.299	-378.507	-6.24%	-0.545
2016	10	6,032.744	5,462.751	569.993	9.45%	0.821
2016	11	4,658.790	4,813.890	-155.100	-3.33%	-0.223
2016	12	4,941.420	4,593.461	347.959	7.04%	0.501
2017	1	5,844.830	5,360.941	483.889	8.28%	0.697
2017	2	4,802.086	4,491.719	310.367	6.46%	0.447
2017	3	5,366.487	5,421.855	-55.368	-1.03%	-0.080
2017	4	4,287.606	4,182.721	104.885	2.45%	0.151
2017	5	5,051.383	4,995.459	55.924	1.11%	0.081
2017	6	5,207.232	5,652.423	-445.191	-8.55%	-0.641
2017	7	7,047.789	6,129.821	917.968	13.02%	1.322
2017	8	7,200.588	7,900.293	-699.705	-9.72%	-1.008
2017	9	6,014.405	6,131.102	-116.697	-1.94%	-0.168
2017	10	5,955.508	5,900.800	54.708	0.92%	0.079
2017	11	5,108.229	4,617.803	490.426	9.60%	0.707
2017	12	5,054.872	4,764.952	289.920	5.74%	0.418
2018	1	5,845.377	5,478.131	367.246	6.28%	0.529
2018	2	4,975.638	4,495.637	480.001	9.65%	0.691
2018	3	5,450.393	5,200.179	250.214	4.59%	0.360
2018	4	4,732.832	4,590.857	141.975	3.00%	0.205
2018	5	5,132.489	5,011.838	120.651	2.35%	0.174
2018	6	6,003.245	5,248.324	754.921	12.58%	1.088
2018	7	6,689.784	6,855.211	-165.427	-2.47%	-0.238
2018	8	7,145.064	7,599.613	-454.549	-6.36%	-0.655
2018	9	7,239.928	5,869.436	1,370.492	18.93%	1.974
2018	10	6,246.564	6,367.238	-120.674	-1.93%	-0.174
2018	11	5,039.612	4,725.340	314.272	6.24%	0.453
2018	12	5,455.145	4,721.748	733.397	13.44%	1.057
2019	1	5,733.951	5,480.580	253.372	4.42%	0.365
2019	2	5,205.735	4,482.156	723.579	13.90%	1.042
2019	3	5,751.220	5,018.098	733.122	12.75%	1.056
2019	4	5,524.917	4,964.818	560.099	10.14%	0.807
2019	5	5,638.582	5,116.897	521.685	9.25%	0.752
2019	6	5,526.312	5,320.374	205.938	3.73%	0.297
2019	7	6,696.968	6,794.683	-97.715	-1.46%	-0.141
2019	8	6,643.220	7,262.833	-619.613	-9.33%	-0.893
2019	9	5,943.208	6,439.479	-496.271	-8.35%	-0.715
2019	10	5,460.610	5,834.935	-374.325	-6.86%	-0.539
2019	11	4,624.437	4,088.583	535.854	11.59%	0.772
2019	12	5,115.141	5,179.827	-64.686	-1.26%	-0.093
2020	1	5,846.626	5,198.591	648.035	11.08%	0.934
2020	2	4,953.043	4,540.252	412.791	8.33%	0.595
2020	3	5,258.631	5,316.970	-58.339	-1.11%	-0.084
2020	4	4,936.395	4,825.388	111.007	2.25%	0.160
2020	5	4,505.390	4,513.733	-8.343	-0.19%	-0.012
2020	6		5,593.692			
2020	7		6,583.194			
2020	8		6,903.452			

Xcel Energy Minnesota Other Public Authority
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2020	9		6,351.072			
2020	10		5,514.348			
2020	11		4,199.098			
2020	12		4,793.169			
2021	1		4,937.517			
2021	2		4,282.823			
2021	3		5,202.913			
2021	4		4,615.431			
2021	5		4,243.897			
2021	6		5,455.525			
2021	7		6,218.083			
2021	8		7,273.027			
2021	9		6,358.330			
2021	10		5,266.052			
2021	11		4,325.341			
2021	12		4,616.610			
2022	1		4,730.023			
2022	2		4,016.825			
2022	3		5,101.214			
2022	4		4,214.776			
2022	5		4,416.685			
2022	6		5,325.626			
2022	7		5,878.413			
2022	8		7,495.941			
2022	9		6,307.454			
2022	10		5,221.018			
2022	11		4,239.588			
2022	12		4,516.418			
2023	1		4,594.558			
2023	2		3,898.380			
2023	3		4,979.676			
2023	4		3,858.867			
2023	5		4,598.756			
2023	6		5,231.985			
2023	7		5,818.417			
2023	8		7,410.511			
2023	9		5,973.542			
2023	10		5,411.455			
2023	11		4,174.315			
2023	12		4,454.603			
2024	1		4,751.484			
2024	2		3,839.051			
2024	3		4,629.313			
2024	4		4,301.466			
2024	5		3,998.033			
2024	6		5,154.869			
2024	7		6,274.696			
2024	8		6,806.507			
2024	9		6,143.160			
2024	10		5,338.407			
2024	11		3,764.855			
2024	12		4,424.545			
2025	1		4,431.565			

Xcel Energy Minnesota Other Public Authority
Test Year 2021-2025 MWh Electric Sales

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2025	2		3,771.508			
2025	3		4,815.778			
2025	4		4,226.812			
2025	5		3,887.929			
2025	6		5,117.247			
2025	7		5,913.333			
2025	8		7,022.624			
2025	9		6,079.813			
2025	10		4,996.057			
2025	11		3,989.468			
2025	12		4,298.199			

Xcel Energy Minnesota Residential without Space Heat
Test Year 2021-2025 Customer Counts

Variable	Coefficient	StdErr	T-Stat	P-Value	Definition
HH_MSP	381.431	119.052	3.204	0.16%	Total Households, Minneapolis-St. Paul-Bloomington MN-WI, thousands, US Census Bureau & IHS Markit
CRS	8280.023	730.158	11.340	0.00%	Binary variable for billing system conversion 2003-Jan 2005=1, otherwise=0
Jan	539455.712	145424.574	3.710	0.03%	Binary variable January=1, otherwise=0
Feb	539706.081	145424.174	3.711	0.03%	Binary variable February=1, otherwise=0
Mar	540001.959	145426.728	3.713	0.03%	Binary variable March=1, otherwise=0
Apr	539604.660	145429.407	3.710	0.03%	Binary variable April=1, otherwise=0
May	538904.072	145432.359	3.706	0.03%	Binary variable May=1, otherwise=0
Jun	537722.601	145432.457	3.697	0.03%	Binary variable June=1, otherwise=0
Jul	537059.702	145431.652	3.693	0.03%	Binary variable July=1, otherwise=0
Aug	537522.222	145430.811	3.696	0.03%	Binary variable August=1, otherwise=0
Sep	537285.229	145428.727	3.694	0.03%	Binary variable September=1, otherwise=0
Oct	538304.747	145427.710	3.702	0.03%	Binary variable October=1, otherwise=0
Nov	538468.625	145428.061	3.703	0.03%	Binary variable November=1, otherwise=0
Dec	538927.558	145425.505	3.706	0.03%	Binary variable December=1, otherwise=0
Trend03	234.990	109.985	2.137	3.39%	Linear trend variable
AR(1)	1.707	0.091	18.831	0.00%	First order autoregressive correction term
AR(2)	-0.747	0.087	-8.583	0.00%	Second order autoregressive correction term
MA(1)	-0.415	0.127	-3.272	0.13%	First order moving average correction term

Dependent Variable					Definition
CUST_Reswo_MN					Minnesota Residential without Space Heat customer count

Xcel Energy Minnesota Residential without Space Heat
Test Year 2021-2025 Customer Counts

Model Statistics		Forecast Statistics	
Iterations	25	Forecast Observations	0
Adjusted Observations	207	Mean Abs. Dev. (MAD)	0.00
Deg. of Freedom for Error	189	Mean Abs. % Err. (MAPE)	0.00%
R-Squared	1.000	Avg. Forecast Error	0.00
Adjusted R-Squared	1.000	Mean % Error	0.00%
AIC	13.309	Root Mean-Square Error	0.00
BIC	13.599	Theil's Inequality Coefficient	0.0000
F-Statistic	#NA	-- Bias Proportion	0.00%
Prob (F-Statistic)	#NA	-- Variance Proportion	0.00%
Log-Likelihood	-1,653.24	-- Covariance Proportion	0.00%
Model Sum of Squares	236,680,436,547.39		
Sum of Squared Errors	104,861,376.36		
Mean Squared Error	554,822.10		
Std. Error of Regression	744.86		
Mean Abs. Dev. (MAD)	497.36		
Mean Abs. % Err. (MAPE)	0.05%		
Durbin-Watson Statistic	2.021		
Durbin-H Statistic	#NA		
Ljung-Box Statistic	62.41		
Prob (Ljung-Box)	0.0000		
Skewness	-0.399		
Kurtosis	6.105		
Jarque-Bera	88.677		
Prob (Jarque-Bera)	0.0000		

Xcel Energy Minnesota Residential without Space Heat
Test Year 2021-2025 Customer Counts

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2003	1	1,003,982.000				
2003	2	1,006,477.000				
2003	3	1,007,632.000	1,008,759.388	(1,127.388)	-0.11%	(1.514)
2003	4	1,008,980.000	1,008,657.763	322.237	0.03%	0.433
2003	5	1,008,816.000	1,009,722.792	(906.792)	-0.09%	(1.217)
2003	6	1,009,652.000	1,008,719.554	932.446	0.09%	1.252
2003	7	1,010,831.000	1,010,347.523	483.477	0.05%	0.649
2003	8	1,010,692.000	1,012,664.796	(1,972.796)	-0.20%	(2.649)
2003	9	1,012,355.000	1,011,076.525	1,278.475	0.13%	1.716
2003	10	1,013,734.000	1,014,468.397	(734.397)	-0.07%	(0.986)
2003	11	1,012,932.000	1,014,692.837	(1,760.837)	-0.17%	(2.364)
2003	12	1,014,896.000	1,013,686.103	1,209.897	0.12%	1.624
2004	1	1,018,119.000	1,016,304.831	1,814.169	0.18%	2.436
2004	2	1,020,315.000	1,019,811.553	503.447	0.05%	0.676
2004	3	1,024,677.000	1,022,002.166	2,674.834	0.26%	3.591
2004	4	1,023,633.000	1,026,215.397	(2,582.397)	-0.25%	(3.467)
2004	5	1,023,368.000	1,023,587.089	(219.089)	-0.02%	(0.294)
2004	6	1,022,938.000	1,022,686.284	251.716	0.02%	0.338
2004	7	1,023,434.000	1,022,812.538	621.462	0.06%	0.834
2004	8	1,026,214.000	1,024,569.564	1,644.436	0.16%	2.208
2004	9	1,027,101.000	1,027,031.551	69.449	0.01%	0.093
2004	10	1,029,674.000	1,028,922.822	751.178	0.07%	1.008
2004	11	1,030,685.000	1,030,647.384	37.616	0.00%	0.051
2004	12	1,033,628.000	1,031,685.878	1,942.122	0.19%	2.607
2005	1	1,033,990.000	1,035,086.506	(1,096.506)	-0.11%	(1.472)
2005	2	1,025,002.000	1,026,208.850	(1,206.850)	-0.12%	(1.620)
2005	3	1,022,000.000	1,025,127.712	(3,127.712)	-0.31%	(4.199)
2005	4	1,018,694.000	1,020,598.844	(1,904.844)	-0.19%	(2.557)
2005	5	1,017,341.000	1,016,918.032	422.968	0.04%	0.568
2005	6	1,014,105.000	1,015,783.248	(1,678.248)	-0.17%	(2.253)
2005	7	1,011,764.000	1,013,057.004	(1,293.004)	-0.13%	(1.736)
2005	8	1,013,218.000	1,012,056.778	1,161.222	0.11%	1.559
2005	9	1,013,509.000	1,013,776.365	(267.365)	-0.03%	(0.359)
2005	10	1,016,265.000	1,015,577.710	687.290	0.07%	0.923
2005	11	1,018,625.000	1,017,944.485	680.515	0.07%	0.914
2005	12	1,019,653.000	1,020,890.749	(1,237.749)	-0.12%	(1.662)
2006	1	1,021,680.000	1,021,573.577	106.423	0.01%	0.143
2006	2	1,023,467.000	1,023,428.916	38.084	0.00%	0.051
2006	3	1,024,912.000	1,025,284.546	(372.546)	-0.04%	(0.500)
2006	4	1,025,850.000	1,025,902.340	(52.340)	-0.01%	(0.070)
2006	5	1,027,215.000	1,026,519.341	695.659	0.07%	0.934
2006	6	1,026,388.000	1,027,545.139	(1,157.139)	-0.11%	(1.553)
2006	7	1,026,530.000	1,026,771.613	(241.613)	-0.02%	(0.324)
2006	8	1,029,544.000	1,027,990.728	1,553.272	0.15%	2.085
2006	9	1,031,388.000	1,030,792.052	595.948	0.06%	0.800
2006	10	1,034,744.000	1,033,883.347	860.653	0.08%	1.155
2006	11	1,036,121.000	1,036,399.974	(278.974)	-0.03%	(0.375)
2006	12	1,037,212.000	1,037,684.450	(472.450)	-0.05%	(0.634)
2007	1	1,039,940.000	1,038,494.324	1,445.676	0.14%	1.941
2007	2	1,041,148.000	1,041,259.599	(111.599)	-0.01%	(0.150)
2007	3	1,042,690.000	1,042,226.017	463.983	0.04%	0.623
2007	4	1,043,467.000	1,043,026.161	440.839	0.04%	0.592
2007	5	1,043,404.000	1,043,436.930	(32.930)	0.00%	(0.044)

Xcel Energy Minnesota Residential without Space Heat
Test Year 2021-2025 Customer Counts

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2007	6	1,041,448.000	1,042,830.217	(1,382.217)	-0.13%	(1.856)
2007	7	1,041,668.000	1,040,857.614	810.386	0.08%	1.088
2007	8	1,042,741.000	1,042,528.359	212.641	0.02%	0.285
2007	9	1,042,952.000	1,042,956.996	(4.996)	0.00%	(0.007)
2007	10	1,045,234.000	1,044,407.226	826.774	0.08%	1.110
2007	11	1,045,799.000	1,046,079.580	(280.580)	-0.03%	(0.377)
2007	12	1,046,598.000	1,046,621.208	(23.208)	0.00%	(0.031)
2008	1	1,047,649.000	1,047,463.745	185.255	0.02%	0.249
2008	2	1,048,424.000	1,048,293.075	130.925	0.01%	0.176
2008	3	1,049,090.000	1,049,401.384	(311.384)	-0.03%	(0.418)
2008	4	1,049,496.000	1,049,272.227	223.773	0.02%	0.300
2008	5	1,048,674.000	1,049,481.517	(807.517)	-0.08%	(1.084)
2008	6	1,047,528.000	1,047,235.551	292.449	0.03%	0.393
2008	7	1,047,716.000	1,046,815.034	900.966	0.09%	1.210
2008	8	1,049,594.000	1,048,459.772	1,134.228	0.11%	1.523
2008	9	1,050,599.000	1,049,915.594	683.406	0.07%	0.917
2008	10	1,051,817.000	1,052,194.701	(377.701)	-0.04%	(0.507)
2008	11	1,052,371.000	1,052,219.085	151.915	0.01%	0.204
2008	12	1,053,353.000	1,053,050.874	302.126	0.03%	0.406
2009	1	1,053,628.000	1,054,080.060	(452.060)	-0.04%	(0.607)
2009	2	1,054,098.000	1,053,831.767	266.233	0.03%	0.357
2009	3	1,055,007.000	1,054,293.324	713.676	0.07%	0.958
2009	4	1,055,026.000	1,054,682.922	343.078	0.03%	0.461
2009	5	1,053,720.000	1,054,395.873	(675.873)	-0.06%	(0.907)
2009	6	1,053,488.000	1,052,601.490	886.510	0.08%	1.190
2009	7	1,052,493.000	1,053,156.333	(663.333)	-0.06%	(0.891)
2009	8	1,052,833.000	1,053,004.752	(171.752)	-0.02%	(0.231)
2009	9	1,052,577.000	1,052,599.595	(22.595)	0.00%	(0.030)
2009	10	1,053,864.000	1,053,649.907	214.093	0.02%	0.287
2009	11	1,054,270.000	1,054,204.117	65.883	0.01%	0.088
2009	12	1,054,905.000	1,054,874.333	30.667	0.00%	0.041
2010	1	1,055,616.000	1,055,612.370	3.630	0.00%	0.005
2010	2	1,056,628.000	1,056,069.188	558.812	0.05%	0.750
2010	3	1,058,391.000	1,057,388.358	1,002.642	0.09%	1.346
2010	4	1,058,092.000	1,058,704.351	(612.351)	-0.06%	(0.822)
2010	5	1,057,846.000	1,057,764.009	81.991	0.01%	0.110
2010	6	1,057,609.000	1,057,064.714	544.286	0.05%	0.731
2010	7	1,057,335.000	1,057,465.104	(130.104)	-0.01%	(0.175)
2010	8	1,058,130.000	1,058,185.807	(55.807)	-0.01%	(0.075)
2010	9	1,058,379.000	1,058,213.730	165.270	0.02%	0.222
2010	10	1,059,587.000	1,059,743.152	(156.152)	-0.01%	(0.210)
2010	11	1,060,949.000	1,060,018.782	930.218	0.09%	1.249
2010	12	1,061,459.000	1,061,950.088	(491.088)	-0.05%	(0.659)
2011	1	1,062,226.000	1,062,280.945	(54.945)	-0.01%	(0.074)
2011	2	1,062,713.000	1,062,739.307	(26.307)	0.00%	(0.035)
2011	3	1,063,276.000	1,063,267.328	8.672	0.00%	0.012
2011	4	1,063,452.000	1,063,154.964	297.036	0.03%	0.399
2011	5	1,063,018.000	1,063,133.390	(115.390)	-0.01%	(0.155)
2011	6	1,062,311.000	1,062,362.391	(51.391)	0.00%	(0.069)
2011	7	1,062,261.000	1,062,166.873	94.127	0.01%	0.126
2011	8	1,063,631.000	1,063,288.065	342.935	0.03%	0.460
2011	9	1,063,112.000	1,064,066.259	(954.259)	-0.09%	(1.281)
2011	10	1,064,134.000	1,064,492.184	(358.184)	-0.03%	(0.481)

Xcel Energy Minnesota Residential without Space Heat
Test Year 2021-2025 Customer Counts

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2011	11	1,064,629.000	1,064,650.291	(21.291)	0.00%	(0.029)
2011	12	1,065,320.000	1,065,559.515	(239.515)	-0.02%	(0.322)
2012	1	1,065,730.000	1,066,354.250	(624.250)	-0.06%	(0.838)
2012	2	1,066,405.000	1,066,416.141	(11.141)	0.00%	(0.015)
2012	3	1,067,202.000	1,067,297.326	(95.326)	-0.01%	(0.128)
2012	4	1,067,043.000	1,067,500.572	(457.572)	-0.04%	(0.614)
2012	5	1,066,991.000	1,067,009.889	(18.889)	0.00%	(0.025)
2012	6	1,066,314.000	1,066,460.978	(146.978)	-0.01%	(0.197)
2012	7	1,066,609.000	1,066,355.370	253.630	0.02%	0.341
2012	8	1,067,107.000	1,067,931.753	(824.753)	-0.08%	(1.107)
2012	9	1,066,833.000	1,067,508.537	(675.537)	-0.06%	(0.907)
2012	10	1,068,688.000	1,068,398.077	289.923	0.03%	0.389
2012	11	1,069,163.000	1,069,636.608	(473.608)	-0.04%	(0.636)
2012	12	1,069,600.000	1,070,340.631	(740.631)	-0.07%	(0.994)
2013	1	1,070,545.000	1,070,731.493	(186.493)	-0.02%	(0.250)
2013	2	1,071,164.000	1,071,501.189	(337.189)	-0.03%	(0.453)
2013	3	1,071,593.000	1,072,198.521	(605.521)	-0.06%	(0.813)
2013	4	1,072,473.000	1,071,886.253	586.747	0.05%	0.788
2013	5	1,072,390.000	1,072,793.474	(403.474)	-0.04%	(0.542)
2013	6	1,071,924.000	1,072,100.210	(176.210)	-0.02%	(0.237)
2013	7	1,072,908.000	1,072,156.416	751.584	0.07%	1.009
2013	8	1,073,926.000	1,074,531.035	(605.035)	-0.06%	(0.812)
2013	9	1,074,232.000	1,074,595.058	(363.058)	-0.03%	(0.487)
2013	10	1,075,509.000	1,076,046.251	(537.251)	-0.05%	(0.721)
2013	11	1,076,452.000	1,076,336.103	115.897	0.01%	0.156
2013	12	1,077,648.000	1,077,681.028	(33.028)	0.00%	(0.044)
2014	1	1,078,564.000	1,078,967.479	(403.479)	-0.04%	(0.542)
2014	2	1,079,061.000	1,079,502.948	(441.948)	-0.04%	(0.593)
2014	3	1,079,956.000	1,079,965.417	(9.417)	0.00%	(0.013)
2014	4	1,080,271.000	1,080,247.059	23.941	0.00%	0.032
2014	5	1,080,714.000	1,080,320.905	393.095	0.04%	0.528
2014	6	1,080,566.000	1,080,649.894	(83.894)	-0.01%	(0.113)
2014	7	1,081,126.000	1,080,957.012	168.988	0.02%	0.227
2014	8	1,081,570.000	1,082,659.131	(1,089.131)	-0.10%	(1.462)
2014	9	1,081,318.000	1,082,027.922	(709.922)	-0.07%	(0.953)
2014	10	1,082,977.000	1,082,906.407	70.593	0.01%	0.095
2014	11	1,083,659.000	1,083,877.552	(218.552)	-0.02%	(0.293)
2014	12	1,084,975.000	1,084,891.942	83.058	0.01%	0.112
2015	1	1,085,784.000	1,086,399.551	(615.551)	-0.06%	(0.826)
2015	2	1,086,787.000	1,086,807.689	(20.689)	0.00%	(0.028)
2015	3	1,087,599.000	1,087,960.238	(361.238)	-0.03%	(0.485)
2015	4	1,088,591.000	1,088,051.749	539.251	0.05%	0.724
2015	5	1,088,413.000	1,088,992.326	(579.326)	-0.05%	(0.778)
2015	6	1,088,556.000	1,087,808.277	747.723	0.07%	1.004
2015	7	1,088,077.000	1,088,741.610	(664.610)	-0.06%	(0.892)
2015	8	1,088,799.000	1,089,129.924	(330.924)	-0.03%	(0.444)
2015	9	1,089,377.000	1,089,073.378	303.622	0.03%	0.408
2015	10	1,091,082.000	1,091,042.658	39.342	0.00%	0.053
2015	11	1,091,979.000	1,091,892.549	86.451	0.01%	0.116
2015	12	1,092,595.000	1,093,085.031	(490.031)	-0.04%	(0.658)
2016	1	1,093,369.000	1,093,588.588	(219.588)	-0.02%	(0.295)
2016	2	1,094,551.000	1,094,043.564	507.436	0.05%	0.681
2016	3	1,095,351.000	1,095,457.903	(106.903)	-0.01%	(0.144)

Xcel Energy Minnesota Residential without Space Heat
Test Year 2021-2025 Customer Counts

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2016	4	1,095,831.000	1,095,496.013	334.987	0.03%	0.450
2016	5	1,096,525.000	1,095,747.845	777.155	0.07%	1.043
2016	6	1,096,695.000	1,096,335.426	359.574	0.03%	0.483
2016	7	1,096,548.000	1,096,976.384	(428.384)	-0.04%	(0.575)
2016	8	1,097,862.000	1,097,660.426	201.574	0.02%	0.271
2016	9	1,098,165.000	1,098,252.764	(87.764)	-0.01%	(0.118)
2016	10	1,099,552.000	1,099,701.614	(149.614)	-0.01%	(0.201)
2016	11	1,100,537.000	1,100,138.056	398.944	0.04%	0.536
2016	12	1,101,823.000	1,101,519.045	303.955	0.03%	0.408
2017	1	1,102,867.000	1,102,908.655	(41.655)	0.00%	(0.056)
2017	2	1,103,506.000	1,103,588.328	(82.328)	-0.01%	(0.111)
2017	3	1,104,673.000	1,104,201.606	471.394	0.04%	0.633
2017	4	1,105,041.000	1,104,794.615	246.385	0.02%	0.331
2017	5	1,105,616.000	1,104,866.272	749.728	0.07%	1.007
2017	6	1,105,961.000	1,105,363.781	597.219	0.05%	0.802
2017	7	1,105,651.000	1,106,257.636	(606.636)	-0.05%	(0.814)
2017	8	1,106,541.000	1,106,715.424	(174.424)	-0.02%	(0.234)
2017	9	1,106,823.000	1,106,797.262	25.738	0.00%	0.035
2017	10	1,107,714.000	1,108,334.029	(620.029)	-0.06%	(0.832)
2017	11	1,108,641.000	1,108,191.706	449.294	0.04%	0.603
2017	12	1,109,346.000	1,109,637.480	(291.480)	-0.03%	(0.391)
2018	1	1,110,459.000	1,110,356.795	102.205	0.01%	0.137
2018	2	1,111,368.000	1,111,291.250	76.750	0.01%	0.103
2018	3	1,112,844.000	1,112,317.326	526.674	0.05%	0.707
2018	4	1,113,827.000	1,113,289.756	537.244	0.05%	0.721
2018	5	1,114,679.000	1,114,093.018	585.982	0.05%	0.787
2018	6	1,114,542.000	1,114,607.376	(65.376)	-0.01%	(0.088)
2018	7	1,114,657.000	1,114,826.967	(169.967)	-0.02%	(0.228)
2018	8	1,115,473.000	1,115,916.369	(443.369)	-0.04%	(0.595)
2018	9	1,115,525.000	1,115,821.972	(296.972)	-0.03%	(0.399)
2018	10	1,117,187.000	1,117,065.649	121.351	0.01%	0.163
2018	11	1,117,863.000	1,117,971.060	(108.060)	-0.01%	(0.145)
2018	12	1,118,900.000	1,118,917.873	(17.873)	0.00%	(0.024)
2019	1	1,119,836.000	1,120,072.655	(236.655)	-0.02%	(0.318)
2019	2	1,120,611.000	1,120,711.141	(100.141)	-0.01%	(0.134)
2019	3	1,121,725.000	1,121,538.858	186.142	0.02%	0.250
2019	4	1,122,496.000	1,122,085.409	410.591	0.04%	0.551
2019	5	1,122,899.000	1,122,706.752	192.248	0.02%	0.258
2019	6	1,122,778.000	1,122,648.469	129.531	0.01%	0.174
2019	7	1,123,150.000	1,123,036.968	113.032	0.01%	0.152
2019	8	1,123,930.000	1,124,512.316	(582.316)	-0.05%	(0.782)
2019	9	1,124,572.000	1,124,311.440	260.560	0.02%	0.350
2019	10	1,125,385.000	1,126,312.869	(927.869)	-0.08%	(1.246)
2019	11	1,126,215.000	1,125,989.833	225.167	0.02%	0.302
2019	12	1,127,457.000	1,127,291.773	165.227	0.01%	0.222
2020	1	1,128,986.000	1,128,712.177	273.823	0.02%	0.368
2020	2	1,129,875.000	1,130,070.402	(195.402)	-0.02%	(0.262)
2020	3	1,130,816.000	1,130,746.582	69.418	0.01%	0.093
2020	4	1,132,328.000	1,131,024.605	1,303.395	0.12%	1.750
2020	5	1,132,472.000	1,132,611.546	(139.546)	-0.01%	(0.187)
2020	6		1,131,921.695			
2020	7		1,131,772.166			
2020	8		1,132,655.724			

Xcel Energy Minnesota Residential without Space Heat
Test Year 2021-2025 Customer Counts

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2020	9		1,132,843.650			
2020	10		1,134,238.010			
2020	11		1,134,743.269			
2020	12		1,135,413.907			
2021	1		1,136,145.031			
2021	2		1,136,598.199			
2021	3		1,137,253.028			
2021	4		1,137,225.442			
2021	5		1,136,908.291			
2021	6		1,136,243.768			
2021	7		1,136,113.862			
2021	8		1,137,125.270			
2021	9		1,137,596.614			
2021	10		1,139,338.492			
2021	11		1,140,237.352			
2021	12		1,141,429.073			
2022	1		1,142,699.511			
2022	2		1,143,700.105			
2022	3		1,144,793.766			
2022	4		1,145,199.367			
2022	5		1,145,305.584			
2022	6		1,144,808.755			
2022	7		1,144,832.447			
2022	8		1,145,982.757			
2022	9		1,146,441.041			
2022	10		1,148,155.954			
2022	11		1,149,014.985			
2022	12		1,150,117.051			
2023	1		1,151,287.663			
2023	2		1,152,179.713			
2023	3		1,153,208.194			
2023	4		1,153,542.672			
2023	5		1,153,573.065			
2023	6		1,152,974.475			
2023	7		1,152,893.785			
2023	8		1,153,937.918			
2023	9		1,154,371.642			
2023	10		1,156,061.444			
2023	11		1,156,895.252			
2023	12		1,157,903.865			
2024	1		1,158,981.482			
2024	2		1,159,781.152			
2024	3		1,160,710.017			
2024	4		1,160,945.633			
2024	5		1,160,877.922			
2024	6		1,160,199.580			
2024	7		1,160,039.818			
2024	8		1,161,005.496			
2024	9		1,161,395.868			
2024	10		1,163,042.789			
2024	11		1,163,834.113			
2024	12		1,164,784.466			
2025	1		1,165,804.081			

Xcel Energy Minnesota Residential without Space Heat
Test Year 2021-2025 Customer Counts

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2025	2		1,166,545.951			
2025	3		1,167,470.019			
2025	4		1,167,700.943			
2025	5		1,167,628.605			
2025	6		1,166,988.465			
2025	7		1,166,866.917			
2025	8		1,167,870.802			
2025	9		1,168,300.955			
2025	10		1,169,987.628			
2025	11		1,170,818.667			
2025	12		1,171,882.814			

Xcel Energy Minnesota Residential with Space Heat
Test Year 2021-2025 Customer Counts

Variable	Coefficient	StdErr	T-Stat	P-Value	Definition
CONST	-71593.881	8284.650	-8.642	0.00%	Constant term
HH_MN	48.594	3.850	12.622	0.00%	Total Households, Minnesota, thousands, U.S. Census Bureau
CRS	1149.639	85.246	13.486	0.00%	Binary variable for billing system conversion 2003-Jan 2005=1, otherwise=0
Mar2005	811.250	73.509	11.036	0.00%	Binary March 2005=1, otherwise=0
Apr2005	666.271	90.632	7.351	0.00%	Binary April 2005=1, otherwise=0
May2005	220.503	71.738	3.074	0.24%	Binary May 2005=1, otherwise=0
AR(1)	1.268	0.067	18.868	0.00%	First order autoregressive correction term
AR(2)	-0.291	0.066	-4.418	0.00%	Second order autoregressive correction term

Dependent Variable					Definition
CUST_ResSH_MN					Minnesota Residential with Space Heat customer count

Xcel Energy Minnesota Residential with Space Heat
Test Year 2021-2025 Customer Counts

Model Statistics	
Iterations	20
Adjusted Observations	207
Deg. of Freedom for Error	199
R-Squared	0.999
Adjusted R-Squared	0.999
AIC	8.924
BIC	9.052
F-Statistic	32749.525
Prob (F-Statistic)	0.0000
Log-Likelihood	-1,209.32
Model Sum of Squares	1,657,134,873.95
Sum of Squared Errors	1,438,493.45
Mean Squared Error	7,228.61
Std. Error of Regression	85.02
Mean Abs. Dev. (MAD)	62.79
Mean Abs. % Err. (MAPE)	0.20%
Durbin-Watson Statistic	2.124
Durbin-H Statistic	#NA
Ljung-Box Statistic	34.40
Prob (Ljung-Box)	0.0778
Skewness	0.479
Kurtosis	4.148
Jarque-Bera	19.278
Prob (Jarque-Bera)	0.0001

Forecast Statistics	
Forecast Observations	0
Mean Abs. Dev. (MAD)	0.00
Mean Abs. % Err. (MAPE)	0.00%
Avg. Forecast Error	0.00
Mean % Error	0.00%
Root Mean-Square Error	0.00
Theil's Inequality Coefficient	0.0000
-- Bias Proportion	0.00%
-- Variance Proportion	0.00%
-- Covariance Proportion	0.00%

Xcel Energy Minnesota Residential with Space Heat
Test Year 2021-2025 Customer Counts

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2003	1	28,200.000				
2003	2	28,327.000				
2003	3	28,380.000	28,355.330	24.670	0.09%	0.290
2003	4	28,379.000	28,387.677	-8.677	-0.03%	-0.102
2003	5	28,339.000	28,373.155	-34.155	-0.12%	-0.402
2003	6	28,336.000	28,325.168	10.832	0.04%	0.127
2003	7	28,280.000	28,335.084	-55.084	-0.19%	-0.648
2003	8	28,147.000	28,267.116	-120.116	-0.43%	-1.413
2003	9	28,335.000	28,117.209	217.791	0.77%	2.562
2003	10	28,345.000	28,396.369	-51.369	-0.18%	-0.604
2003	11	28,328.000	28,356.545	-28.545	-0.10%	-0.336
2003	12	28,335.000	28,334.536	0.464	0.00%	0.005
2004	1	28,423.000	28,350.455	72.545	0.26%	0.853
2004	2	28,620.000	28,462.185	157.815	0.55%	1.856
2004	3	28,730.000	28,688.857	41.143	0.14%	0.484
2004	4	28,644.000	28,773.145	-129.145	-0.45%	-1.519
2004	5	28,664.000	28,634.290	29.710	0.10%	0.349
2004	6	28,546.000	28,687.134	-141.134	-0.49%	-1.660
2004	7	28,416.000	28,533.803	-117.803	-0.41%	-1.386
2004	8	28,643.000	28,405.476	237.524	0.83%	2.794
2004	9	28,481.000	28,733.603	-252.603	-0.89%	-2.971
2004	10	28,634.000	28,464.280	169.720	0.59%	1.996
2004	11	28,503.000	28,707.604	-204.604	-0.72%	-2.407
2004	12	28,509.000	28,499.482	9.518	0.03%	0.112
2005	1	28,663.000	28,547.314	115.686	0.40%	1.361
2005	2	27,602.000	27,593.411	8.589	0.03%	0.101
2005	3	28,508.000	28,474.761	33.239	0.12%	0.391
2005	4	28,457.000	28,426.275	30.725	0.11%	0.361
2005	5	28,094.000	28,074.330	19.670	0.07%	0.231
2005	6	27,904.000	27,923.885	-19.885	-0.07%	-0.234
2005	7	27,789.000	27,943.323	-154.323	-0.56%	-1.815
2005	8	27,773.000	27,790.620	-17.620	-0.06%	-0.207
2005	9	27,715.000	27,806.003	-91.003	-0.33%	-1.070
2005	10	27,793.000	27,739.040	53.960	0.19%	0.635
2005	11	27,808.000	27,856.810	-48.810	-0.18%	-0.574
2005	12	27,799.000	27,855.371	-56.371	-0.20%	-0.663
2006	1	27,816.000	27,841.530	-25.530	-0.09%	-0.300
2006	2	27,833.000	27,867.704	-34.704	-0.12%	-0.408
2006	3	27,849.000	27,886.552	-37.552	-0.13%	-0.442
2006	4	27,878.000	27,903.834	-25.834	-0.09%	-0.304
2006	5	27,864.000	27,937.959	-73.959	-0.27%	-0.870
2006	6	27,802.000	27,905.941	-103.941	-0.37%	-1.223
2006	7	27,773.000	27,835.503	-62.503	-0.23%	-0.735
2006	8	27,888.000	27,818.590	69.410	0.25%	0.816
2006	9	27,976.000	27,974.869	1.131	0.00%	0.013
2006	10	28,073.000	28,054.782	18.218	0.06%	0.214
2006	11	28,100.000	28,154.016	-54.016	-0.19%	-0.635
2006	12	28,125.000	28,162.065	-37.065	-0.13%	-0.436
2007	1	28,221.000	28,187.693	33.307	0.12%	0.392
2007	2	28,224.000	28,303.987	-79.987	-0.28%	-0.941
2007	3	28,281.000	28,281.897	-0.897	0.00%	-0.011
2007	4	28,290.000	28,355.086	-65.086	-0.23%	-0.766
2007	5	28,261.000	28,351.760	-90.760	-0.32%	-1.068

Xcel Energy Minnesota Residential with Space Heat
Test Year 2021-2025 Customer Counts

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2007	6	28,180.000	28,339.178	-159.178	-0.56%	-1.872
2007	7	28,139.000	28,240.052	-101.052	-0.36%	-1.189
2007	8	28,171.000	28,214.033	-43.033	-0.15%	-0.506
2007	9	28,164.000	28,269.281	-105.281	-0.37%	-1.238
2007	10	28,222.000	28,253.419	-31.419	-0.11%	-0.370
2007	11	28,286.000	28,331.418	-45.418	-0.16%	-0.534
2007	12	28,296.000	28,398.452	-102.452	-0.36%	-1.205
2008	1	28,344.000	28,394.847	-50.847	-0.18%	-0.598
2008	2	28,385.000	28,455.229	-70.229	-0.25%	-0.826
2008	3	28,414.000	28,496.019	-82.019	-0.29%	-0.965
2008	4	28,446.000	28,523.203	-77.203	-0.27%	-0.908
2008	5	28,434.000	28,557.778	-123.778	-0.44%	-1.456
2008	6	28,344.000	28,412.099	-68.099	-0.24%	-0.801
2008	7	28,401.000	28,337.025	63.975	0.23%	0.752
2008	8	28,474.000	28,435.089	38.911	0.14%	0.458
2008	9	28,528.000	28,510.691	17.309	0.06%	0.204
2008	10	28,656.000	28,557.543	98.457	0.34%	1.158
2008	11	28,721.000	28,703.754	17.246	0.06%	0.203
2008	12	28,808.000	28,748.570	59.430	0.21%	0.699
2009	1	28,897.000	28,839.590	57.410	0.20%	0.675
2009	2	28,935.000	28,926.751	8.249	0.03%	0.097
2009	3	28,980.000	28,948.671	31.329	0.11%	0.368
2009	4	28,997.000	28,994.289	2.711	0.01%	0.032
2009	5	28,991.000	29,002.369	-11.369	-0.04%	-0.134
2009	6	28,990.000	29,044.133	-54.133	-0.19%	-0.637
2009	7	28,950.000	29,029.561	-79.561	-0.27%	-0.936
2009	8	29,014.000	28,979.992	34.008	0.12%	0.400
2009	9	29,052.000	29,070.019	-18.019	-0.06%	-0.212
2009	10	29,085.000	29,101.421	-16.421	-0.06%	-0.193
2009	11	29,145.000	29,132.992	12.008	0.04%	0.141
2009	12	29,340.000	29,196.661	143.339	0.49%	1.686
2010	1	29,377.000	29,428.214	-51.214	-0.17%	-0.602
2010	2	29,437.000	29,419.112	17.888	0.06%	0.210
2010	3	29,532.000	29,471.399	60.601	0.21%	0.713
2010	4	29,576.000	29,578.785	-2.785	-0.01%	-0.033
2010	5	29,682.000	29,607.330	74.670	0.25%	0.878
2010	6	29,678.000	29,732.518	-54.518	-0.18%	-0.641
2010	7	29,608.000	29,696.143	-88.143	-0.30%	-1.037
2010	8	29,681.000	29,609.002	71.998	0.24%	0.847
2010	9	29,676.000	29,722.389	-46.389	-0.16%	-0.546
2010	10	29,738.000	29,695.271	42.729	0.14%	0.503
2010	11	29,820.000	29,775.798	44.202	0.15%	0.520
2010	12	29,904.000	29,862.194	41.806	0.14%	0.492
2011	1	29,966.000	29,945.315	20.685	0.07%	0.243
2011	2	30,095.000	29,999.956	95.044	0.32%	1.118
2011	3	30,204.000	30,145.953	58.047	0.19%	0.683
2011	4	30,226.000	30,247.103	-21.103	-0.07%	-0.248
2011	5	30,278.000	30,243.753	34.247	0.11%	0.403
2011	6	30,218.000	30,346.409	-128.409	-0.42%	-1.510
2011	7	30,233.000	30,244.226	-11.226	-0.04%	-0.132
2011	8	30,339.000	30,282.127	56.873	0.19%	0.669
2011	9	30,306.000	30,413.604	-107.604	-0.36%	-1.266
2011	10	30,392.000	30,342.360	49.640	0.16%	0.584

Xcel Energy Minnesota Residential with Space Heat
Test Year 2021-2025 Customer Counts

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2011	11	30,441.000	30,462.437	-21.437	-0.07%	-0.252
2011	12	30,492.000	30,500.991	-8.991	-0.03%	-0.106
2012	1	30,553.000	30,552.838	0.162	0.00%	0.002
2012	2	30,650.000	30,616.783	33.217	0.11%	0.391
2012	3	30,903.000	30,723.464	179.536	0.58%	2.112
2012	4	30,947.000	31,017.490	-70.490	-0.23%	-0.829
2012	5	31,046.000	31,001.129	44.871	0.14%	0.528
2012	6	31,089.000	31,085.062	3.938	0.01%	0.046
2012	7	31,072.000	31,120.326	-48.326	-0.16%	-0.568
2012	8	31,101.000	31,087.003	13.997	0.05%	0.165
2012	9	31,194.000	31,129.459	64.541	0.21%	0.759
2012	10	31,257.000	31,239.690	17.310	0.06%	0.204
2012	11	31,279.000	31,293.265	-14.265	-0.05%	-0.168
2012	12	31,322.000	31,303.578	18.422	0.06%	0.217
2013	1	31,365.000	31,352.444	12.556	0.04%	0.148
2013	2	31,473.000	31,395.202	77.798	0.25%	0.915
2013	3	31,718.000	31,520.380	197.620	0.62%	2.324
2013	4	31,792.000	31,800.371	-8.371	-0.03%	-0.098
2013	5	31,759.000	31,823.687	-64.687	-0.20%	-0.761
2013	6	31,708.000	31,766.086	-58.086	-0.18%	-0.683
2013	7	31,760.000	31,710.408	49.592	0.16%	0.583
2013	8	31,834.000	31,792.032	41.968	0.13%	0.494
2013	9	31,828.000	31,871.595	-43.595	-0.14%	-0.513
2013	10	31,901.000	31,843.319	57.681	0.18%	0.678
2013	11	31,951.000	31,938.483	12.517	0.04%	0.147
2013	12	31,998.000	31,981.502	16.498	0.05%	0.194
2014	1	32,079.000	32,027.412	51.588	0.16%	0.607
2014	2	32,135.000	32,117.306	17.694	0.06%	0.208
2014	3	32,145.000	32,165.616	-20.616	-0.06%	-0.242
2014	4	32,229.000	32,162.862	66.138	0.21%	0.778
2014	5	32,313.000	32,267.321	45.679	0.14%	0.537
2014	6	32,259.000	32,385.998	-126.998	-0.39%	-1.494
2014	7	32,275.000	32,284.370	-9.370	-0.03%	-0.110
2014	8	32,375.000	32,322.034	52.966	0.16%	0.623
2014	9	32,318.000	32,445.849	-127.849	-0.40%	-1.504
2014	10	32,456.000	32,346.159	109.841	0.34%	1.292
2014	11	32,805.000	32,539.394	265.606	0.81%	3.124
2014	12	32,896.000	32,943.467	-47.467	-0.14%	-0.558
2015	1	33,107.000	32,959.020	147.980	0.45%	1.741
2015	2	33,206.000	33,201.774	4.226	0.01%	0.050
2015	3	33,238.000	33,267.606	-29.606	-0.09%	-0.348
2015	4	33,262.000	33,281.060	-19.060	-0.06%	-0.224
2015	5	33,210.000	33,303.856	-93.856	-0.28%	-1.104
2015	6	33,173.000	33,165.373	7.627	0.02%	0.090
2015	7	33,119.000	33,153.272	-34.272	-0.10%	-0.403
2015	8	33,132.000	33,095.696	36.304	0.11%	0.427
2015	9	33,145.000	33,128.021	16.979	0.05%	0.200
2015	10	33,197.000	33,140.859	56.141	0.17%	0.660
2015	11	33,266.000	33,203.150	62.850	0.19%	0.739
2015	12	33,373.000	33,275.654	97.346	0.29%	1.145
2016	1	33,415.000	33,391.398	23.602	0.07%	0.278
2016	2	33,712.000	33,413.669	298.331	0.88%	3.509
2016	3	33,773.000	33,778.188	-5.188	-0.02%	-0.061

Xcel Energy Minnesota Residential with Space Heat
Test Year 2021-2025 Customer Counts

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2016	4	33,852.000	33,769.291	82.709	0.24%	0.973
2016	5	33,855.000	33,851.857	3.143	0.01%	0.037
2016	6	33,844.000	33,881.508	-37.508	-0.11%	-0.441
2016	7	33,822.000	33,853.773	-31.773	-0.09%	-0.374
2016	8	34,031.000	33,830.324	200.676	0.59%	2.360
2016	9	34,011.000	34,102.984	-91.984	-0.27%	-1.082
2016	10	34,015.000	34,018.084	-3.084	-0.01%	-0.036
2016	11	34,037.000	34,030.220	6.780	0.02%	0.080
2016	12	34,108.000	34,058.200	49.800	0.15%	0.586
2017	1	34,142.000	34,143.077	-1.077	0.00%	-0.013
2017	2	34,175.000	34,166.786	8.214	0.02%	0.097
2017	3	34,239.000	34,199.989	39.011	0.11%	0.459
2017	4	34,240.000	34,272.791	-32.791	-0.10%	-0.386
2017	5	34,271.000	34,256.692	14.308	0.04%	0.168
2017	6	34,418.000	34,372.905	45.095	0.13%	0.530
2017	7	34,693.000	34,531.178	161.822	0.47%	1.903
2017	8	34,690.000	34,840.108	-150.108	-0.43%	-1.766
2017	9	34,635.000	34,759.303	-124.303	-0.36%	-1.462
2017	10	34,775.000	34,693.416	81.584	0.23%	0.960
2017	11	34,862.000	34,889.916	-27.916	-0.08%	-0.328
2017	12	34,913.000	34,962.495	-49.495	-0.14%	-0.582
2018	1	34,976.000	35,004.842	-28.842	-0.08%	-0.339
2018	2	35,081.000	35,072.875	8.125	0.02%	0.096
2018	3	35,174.000	35,190.674	-16.674	-0.05%	-0.196
2018	4	35,187.000	35,281.042	-94.042	-0.27%	-1.106
2018	5	35,148.000	35,273.458	-125.458	-0.36%	-1.476
2018	6	35,099.000	35,202.376	-103.376	-0.29%	-1.216
2018	7	35,176.000	35,160.150	15.850	0.05%	0.186
2018	8	35,164.000	35,274.545	-110.545	-0.31%	-1.300
2018	9	35,137.000	35,233.727	-96.727	-0.28%	-1.138
2018	10	35,273.000	35,207.018	65.982	0.19%	0.776
2018	11	35,326.000	35,389.695	-63.695	-0.18%	-0.749
2018	12	35,430.000	35,413.958	16.042	0.05%	0.189
2019	1	35,639.000	35,534.336	104.664	0.29%	1.231
2019	2	35,767.000	35,771.346	-4.346	-0.01%	-0.051
2019	3	36,017.000	35,869.297	147.703	0.41%	1.737
2019	4	36,040.000	36,152.873	-112.873	-0.31%	-1.328
2019	5	36,204.000	36,111.436	92.564	0.26%	1.089
2019	6	36,181.000	36,312.926	-131.926	-0.36%	-1.552
2019	7	36,165.000	36,238.679	-73.679	-0.20%	-0.867
2019	8	36,190.000	36,227.148	-37.148	-0.10%	-0.437
2019	9	36,294.000	36,255.158	38.842	0.11%	0.457
2019	10	36,349.000	36,384.618	-35.618	-0.10%	-0.419
2019	11	36,454.000	36,425.941	28.059	0.08%	0.330
2019	12	36,595.000	36,545.640	49.360	0.13%	0.581
2020	1	36,793.000	36,695.526	97.474	0.26%	1.146
2020	2	36,863.000	36,907.430	-44.430	-0.12%	-0.523
2020	3	37,087.000	36,902.999	184.001	0.50%	2.164
2020	4	37,324.000	37,178.558	145.442	0.39%	1.711
2020	5	37,372.000	37,414.918	-42.918	-0.11%	-0.505
2020	6		37,379.054			
2020	7		37,382.745			
2020	8		37,385.708			

Xcel Energy Minnesota Residential with Space Heat
Test Year 2021-2025 Customer Counts

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2020	9		37,403.408			
2020	10		37,421.390			
2020	11		37,439.712			
2020	12		37,435.812			
2021	1		37,432.256			
2021	2		37,429.036			
2021	3		37,456.574			
2021	4		37,484.426			
2021	5		37,512.582			
2021	6		37,563.946			
2021	7		37,615.595			
2021	8		37,667.520			
2021	9		37,748.472			
2021	10		37,829.683			
2021	11		37,911.143			
2021	12		37,990.068			
2022	1		38,069.227			
2022	2		38,148.611			
2022	3		38,236.405			
2022	4		38,324.409			
2022	5		38,412.618			
2022	6		38,475.454			
2022	7		38,538.481			
2022	8		38,601.692			
2022	9		38,666.458			
2022	10		38,731.397			
2022	11		38,796.503			
2022	12		38,860.538			
2023	1		38,924.729			
2023	2		38,989.072			
2023	3		39,072.311			
2023	4		39,155.692			
2023	5		39,239.210			
2023	6		39,292.634			
2023	7		39,346.186			
2023	8		39,399.863			
2023	9		39,472.087			
2023	10		39,544.427			
2023	11		39,616.879			
2023	12		39,665.297			
2024	1		39,713.820			
2024	2		39,762.445			
2024	3		39,828.629			
2024	4		39,894.908			
2024	5		39,961.279			
2024	6		40,001.368			
2024	7		40,041.545			
2024	8		40,081.804			
2024	9		40,147.496			
2024	10		40,213.266			
2024	11		40,279.111			
2024	12		40,317.481			
2025	1		40,355.922			

Xcel Energy Minnesota Residential with Space Heat
Test Year 2021-2025 Customer Counts

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2025	2		40,394.431			
2025	3		40,460.985			
2025	4		40,527.602			
2025	5		40,594.282			
2025	6		40,642.995			
2025	7		40,691.767			
2025	8		40,740.594			
2025	9		40,815.131			
2025	10		40,889.719			
2025	11		40,964.359			
2025	12		41,025.973			

Xcel Energy Minnesota Public Street and Highway Lighting
Test Year 2021-2025 Customer Counts

Variable	Coefficient	StdErr	T-Stat	P-Value	Definition
CONST	-9287.122	827.854	-11.218	0.00%	Constant term
NR_MSP	3.824	0.245	15.609	0.00%	Total Population, Minneapolis-St. Paul-Bloomington MN-WI, thousands, U.S. Census Bureau
Nov2004	129.395	22.799	5.675	0.00%	Binary variable November 2004=1, otherwise=0
Dec2004	170.068	22.799	7.459	0.00%	Binary variable December 2004=1, otherwise=0
MN_SL_LED_Conv	12.726	2.026	6.282	0.00%	Street Light LED Conversion trend starting in Oct 2015=1
AR(1)	0.923	0.024	37.980	0.00%	First order autoregressive correction term

Dependent Variable					Definition
CUST_PS_MN					Minnesota Public Street and Highway Lighting customer count

Xcel Energy Minnesota Public Street and Highway Lighting
Test Year 2021-2025 Customer Counts

Model Statistics	
Iterations	15
Adjusted Observations	208
Deg. of Freedom for Error	202
R-Squared	0.999
Adjusted R-Squared	0.999
AIC	6.617
BIC	6.713
F-Statistic	32078.987
Prob (F-Statistic)	0.0000
Log-Likelihood	-977.31
Model Sum of Squares	116,572,340.88
Sum of Squared Errors	146,810.20
Mean Squared Error	726.78
Std. Error of Regression	26.96
Mean Abs. Dev. (MAD)	15.02
Mean Abs. % Err. (MAPE)	0.42%
Durbin-Watson Statistic	1.873
Durbin-H Statistic	#NA
Ljung-Box Statistic	19.14
Prob (Ljung-Box)	0.7444
Skewness	-4.217
Kurtosis	50.270
Jarque-Bera	19981.771
Prob (Jarque-Bera)	0.0000

Forecast Statistics	
Forecast Observations	0
Mean Abs. Dev. (MAD)	0.00
Mean Abs. % Err. (MAPE)	0.00%
Avg. Forecast Error	0.00
Mean % Error	0.00%
Root Mean-Square Error	0.00
Theil's Inequality Coefficient	0.0000
-- Bias Proportion	0.00%
-- Variance Proportion	0.00%
-- Covariance Proportion	0.00%

Xcel Energy Minnesota Public Street and Highway Lighting
Test Year 2021-2025 Customer Counts

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2003	1	2,953.000				
2003	2	2,957.000	2,942.074	14.926	0.50%	0.554
2003	3	2,973.000	2,946.435	26.565	0.89%	0.985
2003	4	2,961.000	2,961.869	-0.869	-0.03%	-0.032
2003	5	2,977.000	2,951.466	25.534	0.86%	0.947
2003	6	2,702.000	2,967.306	-265.306	-9.82%	-9.841
2003	7	2,690.000	2,714.242	-24.242	-0.90%	-0.899
2003	8	2,709.000	2,703.870	5.130	0.19%	0.190
2003	9	2,680.000	2,722.103	-42.103	-1.57%	-1.562
2003	10	2,677.000	2,696.044	-19.044	-0.71%	-0.706
2003	11	2,712.000	2,693.977	18.023	0.66%	0.669
2003	12	2,712.000	2,726.975	-14.975	-0.55%	-0.555
2004	1	2,719.000	2,727.676	-8.676	-0.32%	-0.322
2004	2	2,720.000	2,734.837	-14.837	-0.55%	-0.550
2004	3	2,722.000	2,736.460	-14.460	-0.53%	-0.536
2004	4	2,814.000	2,739.007	74.993	2.66%	2.782
2004	5	2,862.000	2,824.604	37.396	1.31%	1.387
2004	6	2,853.000	2,869.170	-16.170	-0.57%	-0.600
2004	7	2,886.000	2,861.533	24.467	0.85%	0.908
2004	8	2,914.000	2,892.653	21.347	0.73%	0.792
2004	9	2,960.000	2,919.158	40.842	1.38%	1.515
2004	10	2,996.000	2,962.274	33.726	1.13%	1.251
2004	11	3,136.000	3,125.558	10.442	0.33%	0.387
2004	12	3,188.000	3,176.684	11.316	0.35%	0.420
2005	1	3,030.000	3,017.737	12.263	0.40%	0.455
2005	2	3,011.000	3,029.541	-18.541	-0.62%	-0.688
2005	3	3,004.000	3,012.676	-8.676	-0.29%	-0.322
2005	4	3,035.000	3,006.885	28.115	0.93%	1.043
2005	5	3,099.000	3,036.159	62.841	2.03%	2.331
2005	6	3,096.000	3,098.491	-2.491	-0.08%	-0.092
2005	7	3,103.000	3,096.591	6.409	0.21%	0.238
2005	8	3,130.000	3,103.920	26.080	0.83%	0.967
2005	9	3,130.000	3,129.704	0.296	0.01%	0.011
2005	10	3,134.000	3,130.574	3.426	0.11%	0.127
2005	11	3,170.000	3,135.134	34.866	1.10%	1.293
2005	12	3,151.000	3,169.223	-18.223	-0.58%	-0.676
2006	1	3,159.000	3,152.559	6.441	0.20%	0.239
2006	2	3,168.000	3,160.811	7.189	0.23%	0.267
2006	3	3,205.000	3,169.985	35.015	1.09%	1.299
2006	4	3,212.000	3,204.997	7.003	0.22%	0.260
2006	5	3,228.000	3,212.326	15.674	0.49%	0.581
2006	6	3,228.000	3,227.936	0.064	0.00%	0.002
2006	7	3,253.000	3,228.803	24.197	0.74%	0.898
2006	8	3,245.000	3,252.740	-7.740	-0.24%	-0.287
2006	9	3,272.000	3,246.225	25.775	0.79%	0.956
2006	10	3,276.000	3,272.007	3.993	0.12%	0.148
2006	11	3,279.000	3,276.566	2.434	0.07%	0.090
2006	12	3,276.000	3,280.202	-4.202	-0.13%	-0.156
2007	1	3,290.000	3,278.301	11.699	0.36%	0.434
2007	2	3,279.000	3,292.087	-13.087	-0.40%	-0.485
2007	3	3,288.000	3,282.804	5.196	0.16%	0.193
2007	4	3,287.000	3,291.976	-4.976	-0.15%	-0.185
2007	5	3,298.000	3,291.921	6.079	0.18%	0.226

Xcel Energy Minnesota Public Street and Highway Lighting
Test Year 2021-2025 Customer Counts

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2007	6	3,316.000	3,301.789	14.211	0.43%	0.527
2007	7	3,317.000	3,319.178	-2.178	-0.07%	-0.081
2007	8	3,328.000	3,320.879	7.121	0.21%	0.264
2007	9	3,331.000	3,331.808	-0.808	-0.02%	-0.030
2007	10	3,343.000	3,335.355	7.645	0.23%	0.284
2007	11	3,341.000	3,347.207	-6.207	-0.19%	-0.230
2007	12	3,346.000	3,346.140	-0.140	0.00%	-0.005
2008	1	3,342.000	3,351.533	-9.533	-0.29%	-0.354
2008	2	3,343.000	3,348.620	-5.620	-0.17%	-0.208
2008	3	3,344.000	3,350.321	-6.321	-0.19%	-0.234
2008	4	3,346.000	3,352.023	-6.023	-0.18%	-0.223
2008	5	3,339.000	3,354.647	-15.647	-0.47%	-0.580
2008	6	3,341.000	3,348.207	-7.207	-0.22%	-0.267
2008	7	3,341.000	3,350.772	-9.772	-0.29%	-0.362
2008	8	3,351.000	3,351.492	-0.492	-0.01%	-0.018
2008	9	3,337.000	3,361.440	-24.440	-0.73%	-0.907
2008	10	3,328.000	3,349.241	-21.241	-0.64%	-0.788
2008	11	3,344.000	3,341.656	2.344	0.07%	0.087
2008	12	3,346.000	3,357.140	-11.140	-0.33%	-0.413
2009	1	3,351.000	3,359.706	-8.706	-0.26%	-0.323
2009	2	3,345.000	3,365.039	-20.039	-0.60%	-0.743
2009	3	3,362.000	3,360.223	1.777	0.05%	0.066
2009	4	3,367.000	3,376.630	-9.630	-0.29%	-0.357
2009	5	3,367.000	3,381.964	-14.964	-0.44%	-0.555
2009	6	3,368.000	3,381.161	-13.161	-0.39%	-0.488
2009	7	3,365.000	3,382.686	-17.686	-0.53%	-0.656
2009	8	3,360.000	3,380.520	-20.520	-0.61%	-0.761
2009	9	3,363.000	3,376.509	-13.509	-0.40%	-0.501
2009	10	3,372.000	3,379.880	-7.880	-0.23%	-0.292
2009	11	3,383.000	3,388.787	-5.787	-0.17%	-0.215
2009	12	3,381.000	3,399.540	-18.540	-0.55%	-0.688
2010	1	3,382.000	3,398.297	-16.297	-0.48%	-0.605
2010	2	3,392.000	3,399.822	-7.822	-0.23%	-0.290
2010	3	3,405.000	3,410.006	-5.006	-0.15%	-0.186
2010	4	3,423.000	3,422.632	0.368	0.01%	0.014
2010	5	3,480.000	3,439.871	40.129	1.15%	1.489
2010	6	3,488.000	3,495.555	-7.555	-0.22%	-0.280
2010	7	3,492.000	3,503.757	-11.757	-0.34%	-0.436
2010	8	3,533.000	3,508.267	24.733	0.70%	0.917
2010	9	3,541.000	3,546.920	-5.920	-0.17%	-0.220
2010	10	3,571.000	3,555.122	15.878	0.44%	0.589
2010	11	3,585.000	3,583.625	1.375	0.04%	0.051
2010	12	3,616.000	3,597.363	18.637	0.52%	0.691
2011	1	3,589.000	3,626.788	-37.788	-1.05%	-1.402
2011	2	3,610.000	3,602.692	7.308	0.20%	0.271
2011	3	3,619.000	3,622.890	-3.890	-0.11%	-0.144
2011	4	3,619.000	3,632.014	-13.014	-0.36%	-0.483
2011	5	3,639.000	3,632.834	6.166	0.17%	0.229
2011	6	3,644.000	3,651.848	-7.848	-0.22%	-0.291
2011	7	3,658.000	3,657.261	0.739	0.02%	0.027
2011	8	3,659.000	3,670.979	-11.979	-0.33%	-0.444
2011	9	3,699.000	3,672.701	26.299	0.71%	0.976
2011	10	3,719.000	3,710.411	8.589	0.23%	0.319

Xcel Energy Minnesota Public Street and Highway Lighting
Test Year 2021-2025 Customer Counts

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2011	11	3,755.000	3,729.666	25.334	0.67%	0.940
2011	12	3,768.000	3,763.685	4.315	0.11%	0.160
2012	1	3,779.000	3,776.481	2.519	0.07%	0.093
2012	2	3,767.000	3,787.430	-20.430	-0.54%	-0.758
2012	3	3,786.000	3,777.156	8.844	0.23%	0.328
2012	4	3,773.000	3,795.488	-22.488	-0.60%	-0.834
2012	5	3,780.000	3,784.291	-4.291	-0.11%	-0.159
2012	6	3,789.000	3,792.292	-3.292	-0.09%	-0.122
2012	7	3,807.000	3,801.454	5.546	0.15%	0.206
2012	8	3,825.000	3,818.920	6.080	0.16%	0.226
2012	9	3,848.000	3,836.387	11.613	0.30%	0.431
2012	10	3,887.000	3,858.468	28.532	0.73%	1.058
2012	11	3,910.000	3,895.312	14.688	0.38%	0.545
2012	12	3,917.000	3,917.393	-0.393	-0.01%	-0.015
2013	1	3,953.000	3,924.709	28.291	0.72%	1.049
2013	2	3,956.000	3,958.785	-2.785	-0.07%	-0.103
2013	3	3,963.000	3,962.410	0.590	0.01%	0.022
2013	4	3,968.000	3,969.726	-1.726	-0.04%	-0.064
2013	5	3,982.000	3,975.197	6.803	0.17%	0.252
2013	6	3,974.000	3,989.125	-15.125	-0.38%	-0.561
2013	7	3,976.000	3,982.611	-6.611	-0.17%	-0.245
2013	8	3,987.000	3,985.325	1.675	0.04%	0.062
2013	9	3,985.000	3,996.344	-11.344	-0.28%	-0.421
2013	10	4,009.000	3,995.367	13.633	0.34%	0.506
2013	11	4,028.000	4,018.382	9.618	0.24%	0.357
2013	12	4,035.000	4,036.783	-1.783	-0.04%	-0.066
2014	1	4,039.000	4,044.111	-5.111	-0.13%	-0.190
2014	2	4,039.000	4,048.671	-9.671	-0.24%	-0.359
2014	3	4,043.000	4,049.539	-6.539	-0.16%	-0.243
2014	4	4,048.000	4,054.098	-6.098	-0.15%	-0.226
2014	5	4,054.000	4,059.581	-5.581	-0.14%	-0.207
2014	6	4,053.000	4,063.502	-10.502	-0.26%	-0.390
2014	7	4,064.000	4,063.256	0.744	0.02%	0.028
2014	8	4,083.000	4,074.083	8.917	0.22%	0.331
2014	9	4,109.000	4,092.293	16.707	0.41%	0.620
2014	10	4,126.000	4,116.962	9.038	0.22%	0.335
2014	11	4,149.000	4,133.326	15.674	0.38%	0.581
2014	12	4,167.000	4,155.226	11.774	0.28%	0.437
2015	1	4,195.000	4,172.513	22.487	0.54%	0.834
2015	2	4,197.000	4,199.027	-2.027	-0.05%	-0.075
2015	3	4,210.000	4,201.549	8.451	0.20%	0.313
2015	4	4,220.000	4,214.222	5.778	0.14%	0.214
2015	5	4,232.000	4,224.126	7.874	0.19%	0.292
2015	6	4,233.000	4,238.180	-5.180	-0.12%	-0.192
2015	7	4,242.000	4,239.957	2.043	0.05%	0.076
2015	8	4,255.000	4,249.117	5.883	0.14%	0.218
2015	9	4,270.000	4,261.967	8.033	0.19%	0.298
2015	10	4,284.000	4,289.389	-5.389	-0.13%	-0.200
2015	11	4,295.000	4,304.145	-9.145	-0.21%	-0.339
2015	12	4,303.000	4,316.133	-13.133	-0.31%	-0.487
2016	1	4,309.000	4,325.352	-16.352	-0.38%	-0.607
2016	2	4,314.000	4,332.726	-18.726	-0.43%	-0.695
2016	3	4,327.000	4,339.177	-12.177	-0.28%	-0.452

Xcel Energy Minnesota Public Street and Highway Lighting
Test Year 2021-2025 Customer Counts

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2016	4	4,321.000	4,353.010	-32.010	-0.74%	-1.187
2016	5	4,381.000	4,349.310	31.690	0.72%	1.175
2016	6	4,383.000	4,407.323	-24.323	-0.55%	-0.902
2016	7	4,394.000	4,411.068	-17.068	-0.39%	-0.633
2016	8	4,415.000	4,423.118	-8.118	-0.18%	-0.301
2016	9	4,433.000	4,444.396	-11.396	-0.26%	-0.423
2016	10	4,461.000	4,462.906	-1.906	-0.04%	-0.071
2016	11	4,472.000	4,490.643	-18.643	-0.42%	-0.692
2016	12	4,492.000	4,502.693	-10.693	-0.24%	-0.397
2017	1	4,480.000	4,523.048	-43.048	-0.96%	-1.597
2017	2	4,487.000	4,513.874	-26.874	-0.60%	-0.997
2017	3	4,468.000	4,522.233	-54.233	-1.21%	-2.012
2017	4	4,543.000	4,506.600	36.400	0.80%	1.350
2017	5	4,567.000	4,577.708	-10.708	-0.23%	-0.397
2017	6	4,601.000	4,600.863	0.137	0.00%	0.005
2017	7	4,629.000	4,634.068	-5.068	-0.11%	-0.188
2017	8	4,774.000	4,661.736	112.264	2.35%	4.164
2017	9	4,796.000	4,797.370	-1.370	-0.03%	-0.051
2017	10	4,847.000	4,819.502	27.498	0.57%	1.020
2017	11	4,854.000	4,868.395	-14.395	-0.30%	-0.534
2017	12	4,871.000	4,876.685	-5.685	-0.12%	-0.211
2018	1	4,925.000	4,894.203	30.797	0.63%	1.142
2018	2	4,957.000	4,945.863	11.137	0.22%	0.413
2018	3	4,969.000	4,977.223	-8.223	-0.17%	-0.305
2018	4	4,971.000	4,990.127	-19.127	-0.38%	-0.709
2018	5	4,986.000	4,993.803	-7.803	-0.16%	-0.289
2018	6	5,020.000	5,008.007	11.993	0.24%	0.445
2018	7	5,027.000	5,041.098	-14.098	-0.28%	-0.523
2018	8	5,066.000	5,049.275	16.725	0.33%	0.620
2018	9	5,085.000	5,086.981	-1.981	-0.04%	-0.073
2018	10	5,142.000	5,106.231	35.769	0.70%	1.327
2018	11	5,186.000	5,160.546	25.454	0.49%	0.944
2018	12	5,207.000	5,202.866	4.134	0.08%	0.153
2019	1	5,236.000	5,223.962	12.038	0.23%	0.447
2019	2	5,247.000	5,252.440	-5.440	-0.10%	-0.202
2019	3	5,240.000	5,264.307	-24.307	-0.46%	-0.902
2019	4	5,268.000	5,259.565	8.435	0.16%	0.313
2019	5	5,298.000	5,287.120	10.880	0.21%	0.404
2019	6	5,325.000	5,313.227	11.773	0.22%	0.437
2019	7	5,348.000	5,339.605	8.395	0.16%	0.311
2019	8	5,342.000	5,362.292	-20.292	-0.38%	-0.753
2019	9	5,362.000	5,358.103	3.897	0.07%	0.145
2019	10	5,386.000	5,378.012	7.988	0.15%	0.296
2019	11	5,402.000	5,401.613	0.387	0.01%	0.014
2019	12	5,407.000	5,417.305	-10.305	-0.19%	-0.382
2020	1	5,411.000	5,420.151	-9.151	-0.17%	-0.339
2020	2	5,415.000	5,425.009	-10.009	-0.18%	-0.371
2020	3	5,415.000	5,428.730	-13.730	-0.25%	-0.509
2020	4	5,440.000	5,429.809	10.191	0.19%	0.378
2020	5	5,442.000	5,453.958	-11.958	-0.22%	-0.444
2020	6		5,456.907			
2020	7		5,471.744			
2020	8		5,486.517			

Xcel Energy Minnesota Public Street and Highway Lighting
Test Year 2021-2025 Customer Counts

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2020	9		5,501.458			
2020	10		5,516.345			
2020	11		5,531.181			
2020	12		5,546.102			
2021	1		5,554.617			
2021	2		5,563.092			
2021	3		5,571.749			
2021	4		5,580.373			
2021	5		5,588.965			
2021	6		5,597.681			
2021	7		5,606.371			
2021	8		5,615.036			
2021	9		5,623.907			
2021	10		5,632.756			
2021	11		5,641.586			
2021	12		5,650.669			
2022	1		5,659.736			
2022	2		5,668.787			
2022	3		5,677.984			
2022	4		5,687.167			
2022	5		5,696.339			
2022	6		5,705.535			
2022	7		5,714.720			
2022	8		5,723.896			
2022	9		5,733.032			
2022	10		5,742.160			
2022	11		5,751.281			
2022	12		5,759.263			
2023	1		5,767.239			
2023	2		5,775.209			
2023	3		5,783.094			
2023	4		5,790.974			
2023	5		5,798.850			
2023	6		5,806.690			
2023	7		5,814.525			
2023	8		5,822.357			
2023	9		5,830.184			
2023	10		5,838.008			
2023	11		5,845.829			
2023	12		5,853.574			
2024	1		5,861.317			
2024	2		5,869.057			
2024	3		5,876.758			
2024	4		5,884.457			
2024	5		5,892.154			
2024	6		5,899.777			
2024	7		5,907.399			
2024	8		5,915.019			
2024	9		5,922.628			
2024	10		5,930.237			
2024	11		5,937.844			
2024	12		5,945.396			
2025	1		5,952.947			

Xcel Energy Minnesota Public Street and Highway Lighting
Test Year 2021-2025 Customer Counts

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2025	2		5,960.497			
2025	3		5,967.993			
2025	4		5,975.487			
2025	5		5,982.982			
2025	6		5,990.435			
2025	7		5,997.889			
2025	8		6,005.341			
2025	9		6,012.744			
2025	10		6,020.145			
2025	11		6,027.546			
2025	12		6,034.883			

Xcel Energy Minnesota Other Public Authority
Test Year 2021-2025 Customer Counts

Variable	Coefficient	StdErr	T-Stat	P-Value	Definition
HH_MN	1.041	0.024	42.755	0.00%	Total Households, Minnesota, thousands, U.S. Census Bureau
Post_Apr_2012	41.184	6.167	6.679	0.00%	Binary variable beginning April 2012=1, otherwise=0
Post_Dec_2013	30.749	6.176	4.979	0.00%	Binary variable beginning December 2013=1, otherwise=0
PostFeb2020	-531.262	6.122	-86.783	0.00%	Binary variable beginning February 2020=1, otherwise=0
Trend03	-1.730	0.307	-5.633	0.00%	Linear trend variable
AR(1)	0.828	0.070	11.833	0.00%	First order autoregressive correction term
AR(2)	0.141	0.069	2.036	4.31%	Second order autoregressive correction term

Dependent Variable					Definition
CUST_OS_MN					Minnesota Other Public Authority customer count

Xcel Energy Minnesota Other Public Authority
Test Year 2021-2025 Customer Counts

Model Statistics	
Iterations	12
Adjusted Observations	207
Deg. of Freedom for Error	200
R-Squared	0.995
Adjusted R-Squared	0.995
AIC	3.668
BIC	3.780
F-Statistic	#NA
Prob (F-Statistic)	#NA
Log-Likelihood	-666.31
Model Sum of Squares	1,626,008.23
Sum of Squared Errors	7,575.42
Mean Squared Error	37.88
Std. Error of Regression	6.15
Mean Abs. Dev. (MAD)	3.73
Mean Abs. % Err. (MAPE)	0.18%
Durbin-Watson Statistic	2.016
Durbin-H Statistic	#NA
Ljung-Box Statistic	28.83
Prob (Ljung-Box)	0.2265
Skewness	0.728
Kurtosis	15.120
Jarque-Bera	1285.245
Prob (Jarque-Bera)	0.0000

Forecast Statistics	
Forecast Observations	0
Mean Abs. Dev. (MAD)	0.00
Mean Abs. % Err. (MAPE)	0.00%
Avg. Forecast Error	0.00
Mean % Error	0.00%
Root Mean-Square Error	0.00
Theil's Inequality Coefficient	0.0000
-- Bias Proportion	0.00%
-- Variance Proportion	0.00%
-- Covariance Proportion	0.00%

Xcel Energy Minnesota Other Public Authority
Test Year 2021-2025 Customer Counts

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2003	1	2,172.000				
2003	2	2,169.000				
2003	3	2,164.000	2,165.789	-1.789	-0.08%	-0.291
2003	4	2,161.000	2,161.236	-0.236	-0.01%	-0.038
2003	5	2,167.000	2,158.056	8.944	0.41%	1.453
2003	6	2,161.000	2,162.620	-1.620	-0.07%	-0.263
2003	7	2,156.000	2,158.504	-2.504	-0.12%	-0.407
2003	8	2,173.000	2,153.527	19.473	0.90%	3.164
2003	9	2,154.000	2,166.922	-12.922	-0.60%	-2.100
2003	10	2,150.000	2,153.584	-3.584	-0.17%	-0.582
2003	11	2,146.000	2,147.608	-1.608	-0.07%	-0.261
2003	12	2,142.000	2,143.747	-1.747	-0.08%	-0.284
2004	1	2,144.000	2,139.882	4.118	0.19%	0.669
2004	2	2,158.000	2,140.986	17.014	0.79%	2.765
2004	3	2,140.000	2,152.881	-12.881	-0.60%	-2.093
2004	4	2,145.000	2,139.949	5.051	0.24%	0.821
2004	5	2,132.000	2,141.570	-9.570	-0.45%	-1.555
2004	6	2,135.000	2,131.520	3.480	0.16%	0.566
2004	7	2,140.000	2,132.187	7.813	0.37%	1.269
2004	8	2,176.000	2,136.762	39.238	1.80%	6.376
2004	9	2,136.000	2,167.303	-31.303	-1.47%	-5.086
2004	10	2,128.000	2,139.241	-11.241	-0.53%	-1.827
2004	11	2,125.000	2,126.999	-1.999	-0.09%	-0.325
2004	12	2,140.000	2,123.405	16.595	0.78%	2.696
2005	1	2,137.000	2,135.421	1.579	0.07%	0.257
2005	2	2,117.000	2,135.056	-18.056	-0.85%	-2.934
2005	3	2,117.000	2,118.082	-1.082	-0.05%	-0.176
2005	4	2,116.000	2,115.281	0.719	0.03%	0.117
2005	5	2,116.000	2,114.463	1.537	0.07%	0.250
2005	6	2,116.000	2,114.124	1.876	0.09%	0.305
2005	7	2,110.000	2,114.099	-4.099	-0.19%	-0.666
2005	8	2,109.000	2,109.133	-0.133	-0.01%	-0.022
2005	9	2,107.000	2,107.470	-0.470	-0.02%	-0.076
2005	10	2,102.000	2,105.678	-3.678	-0.17%	-0.598
2005	11	2,099.000	2,101.259	-2.259	-0.11%	-0.367
2005	12	2,093.000	2,098.080	-5.080	-0.24%	-0.825
2006	1	2,093.000	2,092.693	0.307	0.01%	0.050
2006	2	2,090.000	2,091.853	-1.853	-0.09%	-0.301
2006	3	2,092.000	2,089.378	2.622	0.13%	0.426
2006	4	2,097.000	2,090.618	6.382	0.30%	1.037
2006	5	2,098.000	2,095.046	2.954	0.14%	0.480
2006	6	2,089.000	2,096.414	-7.414	-0.35%	-1.205
2006	7	2,083.000	2,089.075	-6.075	-0.29%	-0.987
2006	8	2,082.000	2,082.839	-0.839	-0.04%	-0.136
2006	9	2,079.000	2,081.170	-2.170	-0.10%	-0.353
2006	10	2,077.000	2,078.544	-1.544	-0.07%	-0.251
2006	11	2,069.000	2,076.465	-7.465	-0.36%	-1.213
2006	12	2,058.000	2,069.561	-11.561	-0.56%	-1.878
2007	1	2,064.000	2,059.323	4.677	0.23%	0.760
2007	2	2,065.000	2,062.747	2.253	0.11%	0.366
2007	3	2,068.000	2,064.423	3.577	0.17%	0.581
2007	4	2,066.000	2,067.049	-1.049	-0.05%	-0.170
2007	5	2,062.000	2,065.814	-3.814	-0.18%	-0.620

Xcel Energy Minnesota Other Public Authority
Test Year 2021-2025 Customer Counts

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2007	6	2,057.000	2,062.754	-5.754	-0.28%	-0.935
2007	7	2,053.000	2,058.141	-5.141	-0.25%	-0.835
2007	8	2,053.000	2,054.140	-1.140	-0.06%	-0.185
2007	9	2,054.000	2,053.601	0.399	0.02%	0.065
2007	10	2,053.000	2,054.447	-1.447	-0.07%	-0.235
2007	11	2,054.000	2,053.776	0.224	0.01%	0.036
2007	12	2,049.000	2,054.488	-5.488	-0.27%	-0.892
2008	1	2,049.000	2,050.504	-1.504	-0.07%	-0.244
2008	2	2,048.000	2,049.818	-1.818	-0.09%	-0.295
2008	3	2,053.000	2,049.014	3.986	0.19%	0.648
2008	4	2,049.000	2,053.033	-4.033	-0.20%	-0.655
2008	5	2,044.000	2,050.440	-6.440	-0.32%	-1.046
2008	6	2,039.000	2,043.106	-4.106	-0.20%	-0.667
2008	7	2,036.000	2,037.823	-1.823	-0.09%	-0.296
2008	8	2,031.000	2,034.570	-3.570	-0.18%	-0.580
2008	9	2,030.000	2,029.941	0.059	0.00%	0.010
2008	10	2,031.000	2,028.345	2.655	0.13%	0.431
2008	11	2,027.000	2,028.968	-1.968	-0.10%	-0.320
2008	12	2,030.000	2,025.730	4.270	0.21%	0.694
2009	1	2,036.000	2,027.588	8.412	0.41%	1.367
2009	2	2,027.000	2,032.916	-5.916	-0.29%	-0.961
2009	3	2,027.000	2,026.239	0.761	0.04%	0.124
2009	4	2,026.000	2,024.909	1.091	0.05%	0.177
2009	5	2,029.000	2,024.015	4.985	0.25%	0.810
2009	6	2,023.000	2,027.467	-4.467	-0.22%	-0.726
2009	7	2,025.000	2,023.054	1.946	0.10%	0.316
2009	8	2,022.000	2,023.839	-1.839	-0.09%	-0.299
2009	9	2,022.000	2,021.529	0.471	0.02%	0.077
2009	10	2,025.000	2,021.065	3.935	0.19%	0.639
2009	11	2,017.000	2,023.519	-6.519	-0.32%	-1.059
2009	12	2,015.000	2,017.206	-2.206	-0.11%	-0.358
2010	1	2,012.000	2,014.380	-2.380	-0.12%	-0.387
2010	2	2,010.000	2,011.580	-1.580	-0.08%	-0.257
2010	3	2,010.000	2,009.174	0.826	0.04%	0.134
2010	4	2,009.000	2,008.809	0.191	0.01%	0.031
2010	5	2,007.000	2,007.938	-0.938	-0.05%	-0.152
2010	6	2,008.000	2,006.167	1.833	0.09%	0.298
2010	7	2,010.000	2,006.683	3.317	0.17%	0.539
2010	8	2,011.000	2,008.440	2.560	0.13%	0.416
2010	9	2,013.000	2,009.510	3.490	0.17%	0.567
2010	10	2,018.000	2,011.267	6.733	0.33%	1.094
2010	11	2,021.000	2,015.650	5.350	0.26%	0.869
2010	12	2,013.000	2,018.798	-5.798	-0.29%	-0.942
2011	1	2,014.000	2,012.552	1.448	0.07%	0.235
2011	2	2,015.000	2,012.215	2.785	0.14%	0.452
2011	3	2,019.000	2,013.144	5.856	0.29%	0.952
2011	4	2,016.000	2,016.558	-0.558	-0.03%	-0.091
2011	5	2,018.000	2,014.595	3.405	0.17%	0.553
2011	6	2,018.000	2,016.703	1.297	0.06%	0.211
2011	7	2,018.000	2,017.101	0.899	0.04%	0.146
2011	8	2,016.000	2,017.089	-1.089	-0.05%	-0.177
2011	9	2,015.000	2,015.420	-0.420	-0.02%	-0.068
2011	10	2,016.000	2,014.298	1.702	0.08%	0.277

Xcel Energy Minnesota Other Public Authority
Test Year 2021-2025 Customer Counts

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2011	11	2,020.000	2,014.974	5.026	0.25%	0.817
2011	12	2,018.000	2,018.416	-0.416	-0.02%	-0.068
2012	1	2,018.000	2,017.310	0.690	0.03%	0.112
2012	2	2,019.000	2,017.017	1.983	0.10%	0.322
2012	3	2,026.000	2,017.833	8.167	0.40%	1.327
2012	4	2,064.000	2,064.945	-0.945	-0.05%	-0.153
2012	5	2,067.000	2,063.279	3.721	0.18%	0.605
2012	6	2,067.000	2,064.657	2.343	0.11%	0.381
2012	7	2,068.000	2,064.956	3.044	0.15%	0.495
2012	8	2,068.000	2,065.752	2.248	0.11%	0.365
2012	9	2,065.000	2,065.861	-0.861	-0.04%	-0.140
2012	10	2,062.000	2,063.343	-1.343	-0.07%	-0.218
2012	11	2,057.000	2,060.404	-3.404	-0.17%	-0.553
2012	12	2,053.000	2,055.808	-2.808	-0.14%	-0.456
2013	1	2,055.000	2,051.759	3.241	0.16%	0.527
2013	2	2,056.000	2,052.821	3.179	0.15%	0.516
2013	3	2,055.000	2,053.899	1.101	0.05%	0.179
2013	4	2,055.000	2,053.179	1.821	0.09%	0.296
2013	5	2,056.000	2,053.006	2.994	0.15%	0.486
2013	6	2,058.000	2,053.910	4.090	0.20%	0.665
2013	7	2,060.000	2,055.694	4.306	0.21%	0.700
2013	8	2,062.000	2,057.603	4.397	0.21%	0.714
2013	9	2,066.000	2,059.513	6.487	0.31%	1.054
2013	10	2,059.000	2,063.079	-4.079	-0.20%	-0.663
2013	11	2,058.000	2,057.814	0.186	0.01%	0.030
2013	12	2,086.000	2,086.721	-0.721	-0.03%	-0.117
2014	1	2,093.000	2,084.275	8.725	0.42%	1.418
2014	2	2,094.000	2,089.658	4.342	0.21%	0.706
2014	3	2,093.000	2,091.442	1.558	0.07%	0.253
2014	4	2,089.000	2,090.726	-1.726	-0.08%	-0.280
2014	5	2,091.000	2,087.243	3.757	0.18%	0.611
2014	6	2,090.000	2,089.074	0.926	0.04%	0.151
2014	7	2,092.000	2,088.629	3.371	0.16%	0.548
2014	8	2,091.000	2,090.140	0.860	0.04%	0.140
2014	9	2,089.000	2,089.588	-0.588	-0.03%	-0.096
2014	10	2,091.000	2,087.785	3.215	0.15%	0.522
2014	11	2,084.000	2,089.156	-5.156	-0.25%	-0.838
2014	12	2,082.000	2,083.633	-1.633	-0.08%	-0.265
2015	1	2,082.000	2,080.987	1.013	0.05%	0.165
2015	2	2,083.000	2,080.701	2.299	0.11%	0.374
2015	3	2,080.000	2,081.524	-1.524	-0.07%	-0.248
2015	4	2,080.000	2,079.174	0.826	0.04%	0.134
2015	5	2,080.000	2,078.747	1.253	0.06%	0.204
2015	6	2,078.000	2,077.302	0.698	0.03%	0.113
2015	7	2,078.000	2,075.393	2.607	0.13%	0.424
2015	8	2,076.000	2,075.062	0.938	0.05%	0.152
2015	9	2,073.000	2,073.356	-0.356	-0.02%	-0.058
2015	10	2,062.000	2,070.540	-8.540	-0.41%	-1.388
2015	11	2,041.000	2,060.956	-19.956	-0.98%	-3.243
2015	12	2,038.000	2,041.963	-3.963	-0.19%	-0.644
2016	1	2,036.000	2,036.475	-0.475	-0.02%	-0.077
2016	2	2,037.000	2,034.346	2.654	0.13%	0.431
2016	3	2,042.000	2,034.844	7.156	0.35%	1.163

Xcel Energy Minnesota Other Public Authority
Test Year 2021-2025 Customer Counts

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2016	4	2,057.000	2,039.077	17.923	0.87%	2.912
2016	5	2,063.000	2,052.156	10.844	0.53%	1.762
2016	6	2,059.000	2,060.229	-1.229	-0.06%	-0.200
2016	7	2,067.000	2,057.889	9.111	0.44%	1.480
2016	8	2,065.000	2,063.936	1.064	0.05%	0.173
2016	9	2,062.000	2,063.387	-1.387	-0.07%	-0.225
2016	10	2,061.000	2,060.603	0.397	0.02%	0.064
2016	11	2,060.000	2,059.336	0.664	0.03%	0.108
2016	12	2,060.000	2,058.349	1.651	0.08%	0.268
2017	1	2,055.000	2,058.191	-3.191	-0.16%	-0.519
2017	2	2,054.000	2,054.032	-0.032	0.00%	-0.005
2017	3	2,051.000	2,052.483	-1.483	-0.07%	-0.241
2017	4	2,048.000	2,049.840	-1.840	-0.09%	-0.299
2017	5	2,049.000	2,046.915	2.085	0.10%	0.339
2017	6	2,049.000	2,048.931	0.069	0.00%	0.011
2017	7	2,048.000	2,049.333	-1.333	-0.07%	-0.217
2017	8	2,044.000	2,048.538	-4.538	-0.22%	-0.737
2017	9	2,047.000	2,045.117	1.883	0.09%	0.306
2017	10	2,047.000	2,047.072	-0.072	0.00%	-0.012
2017	11	2,044.000	2,047.527	-3.527	-0.17%	-0.573
2017	12	2,046.000	2,045.075	0.925	0.05%	0.150
2018	1	2,045.000	2,046.343	-1.343	-0.07%	-0.218
2018	2	2,042.000	2,045.829	-3.829	-0.19%	-0.622
2018	3	2,043.000	2,043.236	-0.236	-0.01%	-0.038
2018	4	2,041.000	2,043.676	-2.676	-0.13%	-0.435
2018	5	2,039.000	2,042.192	-3.192	-0.16%	-0.519
2018	6	2,036.000	2,039.841	-3.841	-0.19%	-0.624
2018	7	2,042.000	2,037.031	4.969	0.24%	0.807
2018	8	2,041.000	2,041.599	-0.599	-0.03%	-0.097
2018	9	2,043.000	2,041.511	1.489	0.07%	0.242
2018	10	2,041.000	2,043.026	-2.026	-0.10%	-0.329
2018	11	2,036.000	2,041.665	-5.665	-0.28%	-0.921
2018	12	2,034.000	2,037.134	-3.134	-0.15%	-0.509
2019	1	2,035.000	2,034.768	0.232	0.01%	0.038
2019	2	2,034.000	2,035.327	-1.327	-0.07%	-0.216
2019	3	2,037.000	2,034.526	2.474	0.12%	0.402
2019	4	2,037.000	2,036.861	0.139	0.01%	0.023
2019	5	2,035.000	2,037.291	-2.291	-0.11%	-0.372
2019	6	2,035.000	2,035.601	-0.601	-0.03%	-0.098
2019	7	2,031.000	2,035.321	-4.321	-0.21%	-0.702
2019	8	2,033.000	2,032.014	0.986	0.05%	0.160
2019	9	2,032.000	2,032.892	-0.892	-0.04%	-0.145
2019	10	2,029.000	2,032.313	-3.313	-0.16%	-0.538
2019	11	2,028.000	2,029.686	-1.686	-0.08%	-0.274
2019	12	2,023.000	2,028.451	-5.451	-0.27%	-0.886
2020	1	2,020.000	2,024.171	-4.171	-0.21%	-0.678
2020	2	1,490.000	1,489.720	0.280	0.02%	0.045
2020	3	1,489.000	1,489.542	-0.542	-0.04%	-0.088
2020	4	1,485.000	1,488.753	-3.753	-0.25%	-0.610
2020	5	1,483.000	1,485.274	-2.274	-0.15%	-0.370
2020	6		1,482.414			
2020	7		1,481.516			
2020	8		1,480.646			

Xcel Energy Minnesota Other Public Authority
Test Year 2021-2025 Customer Counts

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2020	9		1,480.070			
2020	10		1,479.480			
2020	11		1,478.877			
2020	12		1,477.776			
2021	1		1,476.663			
2021	2		1,475.536			
2021	3		1,475.049			
2021	4		1,474.550			
2021	5		1,474.039			
2021	6		1,474.008			
2021	7		1,473.965			
2021	8		1,473.911			
2021	9		1,474.463			
2021	10		1,475.005			
2021	11		1,475.536			
2021	12		1,475.999			
2022	1		1,476.452			
2022	2		1,476.895			
2022	3		1,477.506			
2022	4		1,478.107			
2022	5		1,478.700			
2022	6		1,478.738			
2022	7		1,478.767			
2022	8		1,478.788			
2022	9		1,478.831			
2022	10		1,478.867			
2022	11		1,478.896			
2022	12		1,478.891			
2023	1		1,478.880			
2023	2		1,478.862			
2023	3		1,479.239			
2023	4		1,479.609			
2023	5		1,479.974			
2023	6		1,479.685			
2023	7		1,479.391			
2023	8		1,479.091			
2023	9		1,479.180			
2023	10		1,479.264			
2023	11		1,479.343			
2023	12		1,478.899			
2024	1		1,478.451			
2024	2		1,477.998			
2024	3		1,477.914			
2024	4		1,477.826			
2024	5		1,477.733			
2024	6		1,477.072			
2024	7		1,476.406			
2024	8		1,475.736			
2024	9		1,475.605			
2024	10		1,475.471			
2024	11		1,475.332			
2024	12		1,474.600			
2025	1		1,473.865			

Xcel Energy Minnesota Other Public Authority
Test Year 2021-2025 Customer Counts

Year	Month	Actual	Pred	Resid	%Resid	StdResid
2025	2		1,473.126			
2025	3		1,472.983			
2025	4		1,472.837			
2025	5		1,472.687			
2025	6		1,472.149			
2025	7		1,471.607			
2025	8		1,471.063			
2025	9		1,471.065			
2025	10		1,471.064			
2025	11		1,471.061			
2025	12		1,470.775			

General High-Level Description of How Billed Customers are Counted	CSS	CRS - Active Service
Active Metered Services	CSS counted customers as they were billed (all accounts "Billed" with current "Revenue Month" revenue). Billed Customer counts were primarily derived from RV931b and RV773 (or variations of these depending on roll-ups, i.e. by Division, etc.). New customers were counted even if they only had a partial bill. Final bills were also counted if invoiced in the same month. If a customer had two load points for the same product, that customer was counted as one customer. If a customer was supplied with more than one product, that customer was counted as a customer of each product (unless on lighting or other period billing).	Count of unique premise, service, utility type, and tariff (rate schedule) having a meter connected for at least one day during the calendar month, having a customer current for at least one service day during the calendar month, for which one or more invoices for a never before billed service period were created during the calendar This only counts a service once as billed if it received a bill, regardless of how many physical invoices were generated. Exceptions to Active Metered Service Count where 1 service is counted multiple times by different tariffs (rate schedules). LGINT - if a service is classed by the LGINT tariff found on register number 50, then count that service as 4 active services under tariffs found on registers 50, 51, 79, and 80. RTP - if a service is classed by RTP tariff found on register number 31, then count that service as 3 active services under tariffs found on registers 31, 32, and 41.
Electric Lighting Services. Periodic Billing Contracts, including individual street light and signal devices, as well as the "special C" rates (phone booths, air raid sirens, etc.), whether provided to a government agency or private corporation.	These types of customers, including "Night Watch" (lighting) are not counted as billed customers.	Count unique combinations of distinct tariff classes assigned to each Periodic Billing (PBL) contract. For example, if a contract has multiple street lights (SL) and signal devices (TSL), this contract would count as two customers (one SL and one TSL).

Electric Specific Scenarios	CSS	CRS - Active Service
Service is supplied at more than one site.	Each site counted as separate customer.	No change.
Customer receives gas and electricity at the same address.	Counted as one gas customer and one electric customer.	No change.
Customer begins service prior to the end of the billing period.	Customer is counted.	Service is counted once if occupied by any one or more customer for 1 day during the period.
Customer discontinues service prior to the end of the billing period (creating the account status of final).	Customer is counted.	Service is counted once if occupied by any one or more customer for 1 day during the period

Electric Specific Scenarios	CSS	CRS - Active Service
Customers in apartment houses. For example if an apartment has 50 electric units metered separately.	Each counted as a customer as long as billed separately.	Each metered service still counted as a customer.
Two different types of utility services are used at the same premise. For example if a residence has both a residential and a commercial meter for a business in the basement.	Each counted as separate customer (unless additional service is lighting or periodic billing).	No change.
Same type of utility service for the same premise is metered separately. For example if a customer has an electric meter for the house and an electric meter for the garage at the same address.	One customer counted.	No change.
Same type of utility service for two premises is metered separately. For example if the landlord lives on the first floor and the basement is metered separately.	Two customers counted.	No change.
Customers with electric service in unincorporated areas with a street light (SLUs). For example, three residential customers share one street light.	Not applicable, because even if customers are sharing the street light, one customer pays the utility (and gets reimbursed directly from other customers). And, as discussed above, that customer would not be counted a second time as a “Night Watch” customer.	Counted consistent with CIS
Electric customers with area lights.	As discussed above, that customer would not be counted a second time as a “Night Watch” customer.	.
Phone booths, sprinkler systems, air raid sirens and other types of non-metered accounts.	Not counted as customers.	.
Interdepartmental Sales	Not billed out of CSS so not counted.	.

NSP MN - Electric

Minnesota		Rate	CRS 2_28_05 Production	CSS Counts Jan_05	Adj for Move-in & Move-outs	Adj for Additive Meters	Adj CSS Counts Jan_05	CRS less CSS - Increase (Decrease)	% Diff
	Residential	A00	48	49			49	(1)	-2.04%
	Residential	A01	728,431	737,822	(1,914)	(2,188)	733,720	(5,289)	-0.72%
	Residential	A02	84	83		(2)	81	3	3.70%
	Residential	A03	322,758	323,421	(403)	(18)	323,000	(242)	-0.07%
	Residential	A04	49	48			48	1	2.08%
	Residential	A05	940	942		(5)	937	3	0.32%
	Residential	A06	294	288		(2)	286	8	2.80%
	sub-total		1,052,604	1,062,653	(2,317)	(2,215)	1,058,121	(5,517)	-0.52%
	C&I	A05	33	33			33	-	0.00%
	C&I	A06	75	77			77	(2)	-2.60%
	C&I	A09	103	-		(17)	(17)	120	-705.88%
	C&I	A10	69,465	71,883	(82)	(240)	71,561	(2,096)	-2.93%
	C&I	A11	117	114	(1)		113	4	3.54%
	C&I	A12	4,561	4,578	(1)		4,577	(16)	-0.35%
	C&I	A13	10	11			11	(1)	-9.09%
	C&I	service still coun	35,081	35,887	(26)	(1,561)	34,300	781	2.28%
	C&I	Ea A15	2,847	2,883	(1)	(917)	1,965	882	44.89%
	C&I	A17	1	-			-	1	---
	C&I	A18	5,565	5,623			5,623	(58)	-1.03%
	C&I	A20	39	36		(13)	23	16	69.57%
	C&I	A21	3	3		(8)	(5)	8	-160.00%
	C&I	A23	1,814	1,822		(289)	1,533	281	18.33%
	C&I	A24	339	352		(415)	(63)	402	-638.10%
	C&I	A27	15	15		(5)	10	5	50.00%
	C&I	A38	1	-			-	1	---
	C&I	5558					-	-	---
	C&I	4631					-	-	---
	C&I	W01		6		(6)	-	-	---
	C&I	A60				(6)	(6)	6	-100.00%
	C&I	A61	1	-			-	1	---
	sub-total		120,070	123,323	(111)	(3,477)	119,735	335	0.28%
	Street Lighting	A30	1,410	1,398			1,398	12	0.86%
	Street Lighting	A31	7	7			7	-	0.00%
	Street Lighting	A32	548	540			540	8	1.48%
	Street Lighting	A34	1,038	1,077			1,077	(39)	-3.62%
	Street Lighting	A35	7	7			7	-	0.00%
	Street Lighting	A37	1	1			1	-	0.00%
	sub-total		3,011	3,030	-	-	3,030	(19)	-0.63%
	Other Pub Auth	A40	1,033	1,037			1,037	(4)	-0.39%
	Other Pub Auth	A41	613	620		(9)	611	2	0.33%
	Other Pub Auth	A42	471	477			477	(6)	-1.26%
	Other Pub Auth	A43		3			3	(3)	-100.00%
			2,117	2,137	-	(9)	2,128	(11)	-0.52%
	Res Auto Prot Ltg	A07	11,598	11,590	(19)		11,571	27	0.23%
	C&I Auto Prot Ltg	A07	13,263	13,277			13,277	(14)	-0.11%
			24,861	24,867	(19)	-	24,848	13	0.05%
	Interdep & Co Use	CUSE	198				-	198	---
	Total Minnesota		*1,202,861*	*1,216,010*	*(2,447)*	*(5,701)*	*1,207,862*	*(5,001)*	*-0.41%*

Company	State	Class	Rate Schedules	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21
				[PROTECTED DATA BEGINS											
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A00												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A01												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A02												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A02_Off												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A03												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A04												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A04_Off												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A05												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A06												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A06_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A01												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A02												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A02_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A03												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A04												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A04_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A05												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A06												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A06_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A07												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A08												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A08_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A80												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A80_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A81												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A81_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A05												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P1_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P3_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A07												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A09												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A10												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A11												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A12												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A12_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A13												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_EV												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_EV_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_U_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A16												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A18												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A22												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_U_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A29_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A29_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_EV												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_EV_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_U_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_U_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A62_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A62_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A63_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A63_P_Off												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A40												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A41_S												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A41_P												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A42												
NSPM	MN	PSHL	NSPM_MN_E_PSHL												
NSPM	MN	Interdepartmental	NSPM_MN_E_Interdept												

PROTECTED DATA ENDS]

Company	State	Class	Rate Schedules	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22
				[PROTECTED DATA BEGINS											
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A00												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A01												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A02												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A02_Off												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A03												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A04												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A04_Off												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A05												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A06												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A06_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A01												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A02												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A02_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A03												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A04												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A04_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A05												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A06												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A06_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A07												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A08												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A08_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A80												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A80_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A81												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A81_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A05												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P1_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P3_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A07												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A09												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A10												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A11												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A12												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A12_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A13												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_EV												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_EV_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_U_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A16												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A18												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A22												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_U_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A29_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A29_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_EV												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_EV_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_U_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_U_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A62_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A62_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A63_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A63_P_Off												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A40												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A41_S												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A41_P												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A42												
NSPM	MN	PSHL	NSPM_MN_E_PSHL												
NSPM	MN	Interdepartmental	NSPM_MN_E_Interdept												

PROTECTED DATA ENDS]

Company	State	Class	Rate Schedules	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23
				[PROTECTED DATA BEGINS											
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A00												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A01												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A02												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A02_Off												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A03												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A04												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A04_Off												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A05												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A06												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A06_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A01												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A02												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A02_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A03												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A04												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A04_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A05												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A06												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A06_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A07												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A08												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A08_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A80												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A80_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A81												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A81_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A05												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P1_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P3_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A07												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A09												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A10												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A11												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A12												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A12_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A13												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_EV												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_EV_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_U_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A16												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A18												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A22												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_U_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A29_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A29_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_EV												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_EV_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_U_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_U_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A62_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A62_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A63_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A63_P_Off												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A40												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A41_S												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A41_P												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A42												
NSPM	MN	PSHL	NSPM_MN_E_PSHL												
NSPM	MN	Interdepartmental	NSPM_MN_E_Interdept												

PROTECTED DATA ENDS]

Company	State	Class	Rate Schedules	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24
				[PROTECTED DATA BEGINS											
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A00												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A01												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A02												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A02_Off												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A03												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A04												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A04_Off												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A05												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A06												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A06_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A01												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A02												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A02_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A03												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A04												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A04_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A05												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A06												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A06_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A07												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A08												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A08_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A80												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A80_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A81												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A81_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A05												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P1_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P3_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A07												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A09												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A10												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A11												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A12												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A12_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A13												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_EV												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_EV_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_U_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A16												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A18												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A22												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_U_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A29_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A29_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_EV												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_EV_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_U_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_U_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A62_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A62_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A63_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A63_P_Off												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A40												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A41_S												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A41_P												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A42												
NSPM	MN	PSHL	NSPM_MN_E_PSHL												
NSPM	MN	Interdepartmental	NSPM_MN_E_Interdept												

PROTECTED DATA ENDS]

Company	State	Class	Rate Schedules	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Dec-25
				[PROTECTED DATA BEGINS											
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A00												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A01												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A02												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A02_Off												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A03												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A04												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A04_Off												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A05												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A06												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A06_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A01												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A02												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A02_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A03												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A04												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A04_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A05												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A06												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A06_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A07												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A08												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A08_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A80												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A80_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A81												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A81_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A05												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P1_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P3_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A07												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A09												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A10												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A11												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A12												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A12_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A13												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_EV												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_EV_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_U_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A16												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A18												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A22												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_U_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A29_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A29_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_EV												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_EV_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_U_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_U_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A62_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A62_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A63_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A63_P_Off												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A40												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A41_S												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A41_P												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A42												
NSPM	MN	PSHL	NSPM_MN_E_PSHL												
NSPM	MN	Interdepartmental	NSPM_MN_E_Interdept												

PROTECTED DATA ENDS]

Company	State	Class	Rate Schedules	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21
				[PROTECTED DATA BEGINS											
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A00												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A01												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A02												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A02_Off												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A03												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A04												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A04_Off												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A05												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A06												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A06_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A01												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A02												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A02_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A03												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A04												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A04_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A05												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A06												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A06_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A07												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A08												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A08_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A80												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A80_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A81												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A81_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A05												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P1_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P3_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A07												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A09												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A10												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A11												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A12												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A12_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A13												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_EV												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_EV_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_U_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A16												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A18												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A22												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_U_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A29_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A29_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_EV												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_EV_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_U_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_U_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A62_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A62_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A63_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A63_P_Off												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A40												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A41_S												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A41_P												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A42												
NSPM	MN	PSHL	NSPM_MN_E_PSHL												
NSPM	MN	Interdepartmental	NSPM_MN_E_Interdept												
															PROTECTED DATA ENDS]

Company	State	Class	Rate Schedules	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22
				[PROTECTED DATA BEGINS											
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A00												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A01												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A02												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A02_Off												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A03												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A04												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A04_Off												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A05												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A06												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A06_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A01												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A02												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A02_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A03												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A04												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A04_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A05												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A06												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A06_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A07												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A08												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A08_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A80												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A80_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A81												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A81_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A05												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P1_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P3_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A07												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A09												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A10												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A11												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A12												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A12_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A13												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_EV												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_EV_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_U_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A16												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A18												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A22												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_U_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A29_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A29_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_EV												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_EV_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_U_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_U_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A62_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A62_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A63_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A63_P_Off												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A40												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A41_S												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A41_P												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A42												
NSPM	MN	PSHL	NSPM_MN_E_PSHL												
NSPM	MN	Interdepartmental	NSPM_MN_E_Interdept												
															PROTECTED DATA ENDS]

Company	State	Class	Rate Schedules	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23
				[PROTECTED DATA BEGINS											
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A00												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A01												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A02												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A02_Off												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A03												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A04												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A04_Off												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A05												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A06												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A06_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A01												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A02												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A02_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A03												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A04												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A04_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A05												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A06												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A06_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A07												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A08												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A08_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A80												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A80_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A81												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A81_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A05												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P1_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P3_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A07												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A09												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A10												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A11												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A12												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A12_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A13												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_EV												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_EV_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_U_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A16												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A18												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A22												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_U_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A29_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A29_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_EV												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_EV_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_U_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_U_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A62_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A62_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A63_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A63_P_Off												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A40												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A41_S												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A41_P												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A42												
NSPM	MN	PSHL	NSPM_MN_E_PSHL												
NSPM	MN	Interdepartmental	NSPM_MN_E_Interdept												
															PROTECTED DATA ENDS]

[PROTECTED DATA BEGINS

Company	State	Class	Rate Schedules	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A00												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A01												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A02												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A02_Off												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A03												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A04												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A04_Off												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A05												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A06												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A06_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A01												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A02												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A02_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A03												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A04												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A04_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A05												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A06												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A06_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A07												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A08												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A08_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A80												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A80_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A81												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A81_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A05												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P1_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P3_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A07												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A09												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A10												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A11												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A12												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A12_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A13												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_EV												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_EV_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_U_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A16												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A18												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A22												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_U_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A29_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A29_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_EV												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_EV_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_U_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_U_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A62_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A62_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A63_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A63_P_Off												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A40												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A41_S												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A41_P												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A42												
NSPM	MN	PSHL	NSPM_MN_E_PSHL												
NSPM	MN	Interdepartmental	NSPM_MN_E_Interdept												

PROTECTED DATA ENDS]

Company	State	Class	Rate Schedules	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Dec-25
				[PROTECTED DATA BEGINS											
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A00												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A01												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A02												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A02_Off												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A03												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A04												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A04_Off												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A05												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A06												
NSPM	MN	Residential w/SH	NSPM_MN_E_RSH_A06_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A01												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A02												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A02_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A03												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A04												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A04_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A05												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A06												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A06_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A07												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A08												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A08_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A80												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A80_Off												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A81												
NSPM	MN	Residential w/o	NSPM_MN_E_RES_A81_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A05												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P1_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P3_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A06_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A07												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A09												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A10												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A11												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A12												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A12_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A13												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A14_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_EV												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_S_EV_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A15_U_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A16												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A18												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A22												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A23_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_U												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A24_U_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_S_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_P_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Int												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A27_T_Int_Off												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A29_P												
NSPM	MN	Small C&I	NSPM_MN_E_SCI_A29_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A14_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_EV												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_S_EV_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A15_U_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A23_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_U												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A24_U_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_S_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_P_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Int												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A27_T_Int_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A62_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A62_P_Off												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A63_P												
NSPM	MN	Large C&I	NSPM_MN_E_LCI_A63_P_Off												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A40												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A41_S												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A41_P												
NSPM	MN	OSPA	NSPM_MN_E_OPA_A42												
NSPM	MN	PSHL	NSPM_MN_E_PSHL												
NSPM	MN	Interdepartmental	NSPM_MN_E_Interdept												
															PROTECTED DATA ENDS]