414 Nicollet Mall
Minneapolis, Minnesota 55401

**PUBLIC DOCUMENT**
**SECURITY, TRADE SECRET, AND PRIVATE DATA ON INDIVIDUALS EXCISED**

April 1, 2016

**—VIA ELECTRONIC FILING—**

Daniel P. Wolf
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, Minnesota 55101

RE: ANNUAL REPORT AND PETITION
SERVICE QUALITY PERFORMANCE AND PROPOSED RELIABILITY MEASURES
DOCKET NO. E002/M-16-___

Dear Mr. Wolf:

Northern States Power Company, doing business as Xcel Energy, submits the enclosed Electric Annual Service Quality Performance Report and Petition of Northern States Power Company, requesting the Commission accept our 2015 report and approve our proposed reliability standards for 2016.

**Security, Trade Secret, and Private Data on Individuals Justification**
This submission contains information regarding the Company's feeders and other system components, and associated customers served. This information is "security information" as defined by Minn. Stat. § 13.37, subd. 1(a). Xcel Energy believes the information could be manipulated to reveal the location and size of facilities serving our customers. The public disclosure or use of this information creates an unacceptable risk because those who want to disrupt the electrical grid for political or other reasons may learn which facilities to target to create the greatest disruption. For this reason, pursuant to Minn. Stat. § 13.37, subd. 2, we have excised this data from the public version of our filing.

This submission also contains proprietary programs Xcel Energy has developed and maintained internally to plan and manage system reliability. This information is "trade

secret" information as defined by Minn. Stat. §13.37(1)(b). This information derives independent economic value from not being generally known or readily ascertainable by others who could obtain a financial advantage from its use. For this reason, pursuant to Minn. Stat. § 13.37, subd. 2, we have excised this data from the public version of our filing.

Finally, this submission includes "private data on individuals," such as customer names and outage events from which they were impacted. This information is maintained by the Company as private customer data, and for this reason, pursuant to Minn. Stat. § 13.679, we have excised this data from the public version of our filing.

We have electronically filed this document with the Minnesota Public Utilities Commission, and notice of the filing has been served on the parties on the attached service list.

Please contact Rebecca Eilers at (612) 330-5570 or rebecca.d.eilers@xcelenergy.com or me at (612) 330-6064 or bria.e.shea@xcelenergy.com if you have any questions regarding this filing.

Sincerely,

/s/

BRIA SHEA
REGULATORY MANAGER

Enclosures

c: Service List

STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

| | |
|---|---|
| Beverly Jones Heydinger | Chair |
| Nancy Lange | Commissioner |
| Dan Lipschultz | Commissioner |
| Matthew Schuerger | Commissioner |
| John Tuma | Commissioner |

IN THE MATTER OF NORTHERN STATES POWER COMPANY'S ANNUAL REPORT ON SAFETY, RELIABILITY, AND SERVICE QUALITY FOR 2015; AND PETITION FOR APPROVAL OF ELECTRIC RELIABILITY STANDARDS FOR 2016

DOCKET NO. E002/M-16-___

**ANNUAL REPORT AND PETITION**

## INTRODUCTION

Northern States Power Company, doing business as Xcel Energy, submits to the Minnesota Public Utilities Commission this Annual Report on our safety, reliability, and service quality performance for 2015. We make this filing pursuant to Minn. R. 7826.0400, 7826.0500, and 7826.1300. This filing also includes our Petition for approval of the Company's proposed reliability standards for the year 2016, as required under Minn. R. 7826.0600. In addition, this Annual Report contains several compliance items from varying dockets.

We respectfully request that the Commission accept our annual report for 2015 and approve our proposed reliability standards for 2016.

## I. SUMMARY OF FILING

A one-paragraph summary of this filing accompanies this Petition pursuant to Minn. R. 7829.1300, subp. 1.

## II. SERVICE ON OTHER PARTIES

Xcel Energy has filed this document in eDockets and served a summary of the filing on all parties on Xcel Energy's miscellaneous electric service list, pursuant to Minn. R. 7829.1300, subp. 2.

## III. GENERAL FILING INFORMATION

Xcel Energy provides the following required information pursuant to Minn. R. 7829.1300, subp. 3.

### A. Name, Address, and Telephone Number of Utility

Northern States Power Company, doing business as Xcel Energy
414 Nicollet Mall
Minneapolis, Minnesota 55401
(612) 330-5500

### B. Name, Address, and Telephone Number of Utility Attorney

Alison Archer
Assistant General Counsel
Xcel Energy
414 Nicollet Mall – 401 5th Floor
Minneapolis, MN 55401
(612) 215-4662

### C. Date of Filing and Date Standards Take Effect

The date of this filing is April 1, 2016. Xcel Energy requests that the Commission accept this annual report on the Company's performance for 2015. Additionally, we request that our proposed reliability standards be approved for the year 2016. Our report on reliability performance for 2016, subject to the standards approved by the Commission, will be filed on or before April 1, 2017, as required under Minn. R. 7826.0500, subp. 1, for the January 1 through December 31, 2016 period.

### D. Statute Controlling Schedule for Processing the Filing

No specific statute imposes a schedule controlling the processing of this filing. Pursuant to Minn. R. 7826.1300, this report is to be filed as a miscellaneous tariff filing under Minn. R. 7829.0100, subp. 11. Under Minn. R. 7829.1400 governing miscellaneous filings, initial comments are due within 30 days of filing, with reply comments due ten days thereafter.

### E. Utility Employee Responsible for Filing

Bria Shea
Regulatory Manager
Xcel Energy

414 Nicollet Mall – 401 7th Floor
Minneapolis, Minnesota 55401
(612) 330-6064

## IV. DESCRIPTION AND PURPOSE OF FILING

Legislation passed in 2001 required that the Commission establish safety, reliability, and service quality standards for electric distribution utilities. After a rulemaking process, the Commission adopted rules that became effective on January 28, 2003. These rules contain both performance standards and reporting requirements. Additionally, the rules require individual utilities to propose electric reliability standards each year for approval by the Commission.

In compliance with the rules, this filing is organized into the following sections:

- Safety Performance for 2015
- Reliability Performance for 2015
- Service Quality Performance for 2015
- Additional Reporting Requirements
- Proposed Electric Reliability Standards for 2016

On April 1, 2015, the Company filed proposed reliability standards for 2015. The Commission approved our proposed standards in its October 23, 2015 Order in Docket No. E002/M-15-324. This filing contains information on our proposed reliability standards for 2016, as well as information on our performance for 2015 under the approved standards. The standards we propose for 2016 are calculated using the same methodology as previously approved for our 2015 reliability standards; however, as discussed below, we did evaluate and consider other calculation methodologies as well.

### SAFETY PERFORMANCE FOR 2015

*7826.0400 Annual Safety Report. On or before April 1 of each year, each utility shall file a report on its safety performance during the last calendar year. This report shall include at least the following information:*

*A. Summaries of all reports filed with United States Occupational Safety and Health Administration (OSHA) and the Occupational Safety and Health Division of Minnesota Department of Labor & Industry during the calendar year.*

During 2015, we continued our commitment to provide a safe work environment for our employees and to promote awareness of safe work practices.

Each year, the U.S. Department of Labor, Bureau of Labor Statistics Survey of Occupational Injuries and Illnesses requests information on randomly selected plants and facilities operated by Xcel Energy. We provide as **Attachment A** to this Annual Report, a table containing a summary of the data requested by the U.S. Department of Labor for 2015. Additionally, this table includes the required information from the U.S. Occupational Safety and Health Administration Form 300.

*B. A description of all incidents during the calendar year in which an injury requiring medical attention or property damage resulting in compensation occurred as a result of downed wires or other electrical system failures and all remedial action taken as a result of any inquiries or property damage described.*

**Attachment B** to this Annual Report includes the required information regarding property damage resulting from downed wires or other electrical system failures. In general, when an incident occurs from a downed wire or failed equipment, the Company takes the necessary action to replace, repair or otherwise fix its equipment.

In 2015, the Company made no payments in compensation for injuries requiring medical attention resulting from downed wires or other electrical system failures.

## RELIABILITY PERFORMANCE FOR 2015

The Commission's December 12, 2014 Order in Docket No. E002/M-14-131 specified that the Company provide additional information in this Annual Report describing the policies, procedures and actions that we have implemented, or are planned, to assure reliability as follows:

3. *Required Xcel to augment its next filing to include a description of the policies, procedures and actions that it has implemented, and plans to implement, to assure reliability, including information on how it is demonstrating pro-active management of the system as a whole, increased reliability, and active contingency planning.*

4. *Required Xcel to incorporate into its next filing a summary table that allows the reader to more easily assess the overall reliability of the system and identify the main factors that affect reliability.*

5. *Required Xcel to report on the major causes of outages for major event days.*

6. *Required Xcel to consider other factors, in addition to historical data, on which to base its reliability indices for 2014 in an effort to demonstrate its commitment toward improving reliability performance.*

7. *Required Xcel to continue reporting major service interruptions to the Commission's Consumer Affairs Office.*

Below we outline, by Order point, where in this Annual Report we have provided the required information:

*Order Points 3 and 4:* We provide this information in our Distribution System Performance Summary as **Attachment M**.

*Order Point 5:* We provide this information as well as our Momentary Average Interruption Frequency Index (MAIFI) results as **Attachment N.**

*Order Point 6:* We provide this information in the Section, "Proposed Electric Reliability Standards for 2016."

*Order Point 7:* We discuss our major service interruptions in this Annual Report in the Section discussing Minn. Rule 7826.0500.

On April 1, 2015, as required by Minn. R. 7826.0600, we proposed reliability standards for 2015 for each of our four Minnesota work centers.[1] The Commission approved our proposed standards in their October 23, 2015 Order in Docket No. E002/M-15-324. The table below presents our 2015 reliability performance results compared to these standards. We note that these reliability statistics are calculated using the methodology previously-approved by the Commission, which we outline below:

- Include outages occurring at all levels (distribution, substation, and transmission).
- Include all outage cause codes.
- Where applicable, include credit for partial restoration.
- Base calculations on the number of customers' billing accounts and meters.
- Base calculations on storm-normalized data.

We determine regional storm day thresholds based on the average number of sustained outages per day.[2] Any day that meets or exceeds the threshold is considered

[1] The four Minnesota work centers include Metro East, Metro West, Northwest, and Southeast.

[2] A "sustained outage" is an outage with duration greater than five minutes.

a storm day for the qualifying region. This means that all outages that start on a storm day (which lasts from midnight to midnight) for a particular work center are excluded from the calculation of the various reliability indices for that work center.

For 2015, we used the following storm day threshold calculation procedures:

- Using the previous five years of outage history for each region, we:
  - Calculate the number of sustained outages per day;
  - Calculate the average number of sustained outages per day; and
  - Calculate the standard deviation of sustained outages per day.
- Based on the above methodology, we set a unique storm day threshold for each region. A storm day is defined as any day meeting or exceeding the average number of sustained outages per day plus three standard deviations.

**2015 RELIABILITY PERFORMANCE RESULTS**

| | | 2015 Performance Results | 2015 Standard |
|---|---|---|---|
| Minnesota | SAIDI | 92.08 | NA |
| | SAIFI | 0.84 | NA |
| | CAIDI | 110.02 | NA |
| Metro East | SAIDI | **101.38** | 83.51 |
| | SAIFI | **0.92** | 0.91 |
| | CAIDI | **109.67** | 92.17 |
| Metro West | SAIDI | 90.95 | 97.13 |
| | SAIFI | 0.84 | 0.96 |
| | CAIDI | **108.44** | 100.75 |
| Northwest | SAIDI | 75.27 | 94.41 |
| | SAIFI | 0.65 | 0.84 |
| | CAIDI | **115.32** | 112.00 |
| Southeast | SAIDI | 82.96 | 98.28 |
| | SAIFI | 0.72 | 0.75 |
| | CAIDI | 115.64 | 131.46 |

As shown above, in 2015 we met seven of twelve standards, bolding those standards we did not meet.[3] We provide in the following section a summary as to why we did not meet the established standards in these areas.

[3] We note that Xcel Energy operates under two sets of reliability standards – those approved by the Commission under Minn. R. 7826.0600, and those included in the Company's service quality tariff. The Commission approved the reliability measures in our service quality tariff in its Order dated August 12, 2013 in Docket No. E,G002/M-12-383. We will file an annual report in that docket on May 1, 2016.

*E. An action plan for remedying any failure to comply with the reliability standards set forth in part 7826.0600 or an explanation as to why noncompliance was unavoidable.*

As we have noted in previous annual reports, due to the fact that these goals are five-year averages, we would expect to achieve target results 50 percent of the time and miss the target 50 percent of the time. Taken together, several days of storms that cause extensive outages but do not qualify for storm days can quickly erode a standard that is based on average performance.

As described in our Distribution System Performance Summary provided as Attachment M to this Annual Report, the Company will continue our on-going assessments of reliability, seeking to implement system improvements and maintenance to achieve the largest improvements in reliability measurements. We are committed to providing reliable service to our customers and discuss the specific work centers below.

*1. Metro East*

Our SAIDI, SAIFI, and CAIDI performance in the Metro East work center did not meet the threshold by 17.9 minutes, 0.01 outages, and 17.5 minutes, respectively. In 2015, we experienced several significant events, each of which substantially impacted the fact that we did not meet the metrics for this work center.

On July 12, a storm impacted the metro and northwest areas. The Metro East work center had a significant amount of outages coming in at 88 percent of the storm exclusion threshold. The impact of the event contributed 7.6 minutes to SAIDI, 0.03 interruptions to SAIFI, and 5.4 minutes to CAIDI. Also, there were two other days with increased storm activity, May 17 and August 22, which combined contributed 8.5 minutes to SAIDI, 0.04 interruptions to SAIFI, and 4.8 minutes to CAIDI. In addition, on August 16, a Connector failure on a mainline feeder contributed 3.5 minutes to SAIDI, 0.01 interruptions to SAIFI, and 2.7 minutes to CAIDI. Furthermore, on April 22, a Transformer failure at the Distribution Substation level contributed 2.9 minutes to SAIDI, 0.02 interruptions to SAIFI, and 1.1 minutes to CAIDI.

*2. Metro West*

Our SAIDI & SAIFI in the Metro West work center were both within the standard for the year. CAIDI for the Metro West work center region did not meet the thresholds by 7.7 minutes. In 2015, we experienced several significant events, each of

which substantially impacted the fact that we did not meet the CAIDI metric for this work center.

On February 24, a Connector failure on a mainline feeder contributed 5.1 minutes to SAIDI, 0.01 interruptions to SAIFI, and 4.7 minutes to CAIDI. In addition, on April 22, a Transformer failure at the Distribution Substation level contributed 4.5 minutes to SAIDI, 0.03 interruptions to SAIFI, and 1.9 minutes to CAIDI. Furthermore, on July 12, a storm impacted the metro and northwest areas. The Metro West work center had a significant amount of outages coming in at 74 percent of the storm exclusion threshold. The impact of the event contributed 3.1 minutes to SAIDI, 0.01 interruptions to SAIFI, and 2.8 minutes to CAIDI.

*3. Northwest*

Our SAIDI & SAIFI in the Northwest work center were both within the standard for the year. CAIDI for the Northwest work center region did not meet the thresholds by 3.3 minutes. Despite being very close to achieving the CAIDI standard, in 2015 we experienced elevated storm activity on two days in July which impacted the fact that we did not meet the CAIDI metric for this work center.

On July 12 and 13, a storm impacted the metro and northwest areas. The Northwest work center had a significant amount of outages coming in at 84 percent of the storm exclusion threshold on the 12. The impact of the combined days contributed 10.3 minutes to SAIDI, 0.07 interruptions to SAIFI, and 4.2 minutes to CAIDI.

*4. Southeast*

We are pleased to report that our SAIDI, SAIFI, and CAIDI for the Southeast work center were within the standard for the year.

F. *To the extent feasible, a report on each interruption of a bulk power supply facility during the calendar year, including the reasons for interruption, duration of interruption, and any remedial steps that have been taken or will be taken to prevent future interruption.*

During 2015, there were no generation outages on Xcel Energy's system that caused an interruption of service to firm electric customers. All curtailments of customers subject to load management rates or Demand-Side Management programs were consistent with the terms of the load management tariffs and DSM programs.

We provide the required information regarding transmission outages as

**Attachment C**.

*G. A copy of each report filed under part 7826.0700.*

Minn. R. 7826.0700, subp. 1 requires a utility to promptly inform the Commission's Consumer Affairs Office of any major service interruption occurring on the utility's system. "Major service interruption" is defined under Minn. R. 7826.0200, subp. 7 as an interruption of service at the Feeder level or above and affecting 500 or more customers for one or more hours. Xcel Energy regularly sends the CAO notification of *all* sustained outages occurring at the Feeder level or above, which includes reporting outages that are not necessarily large enough or long enough to meet the definition of a major service interruption under Minn. R. 7826.0200, subp. 7.

We are committed to providing the CAO with timely and accurate information. Our Customer Advocate Group generally sends these notifications via e-mail directly to the CAO. In most cases, our Customer Advocates forward a copy of the internal email outage notifications they receive from our Control Center. During 2015, there were 259 outages on Xcel Energy's system that meet the definition of "major service interruption." We provide as **Attachment D** to this Annual Report copies of the notifications.

In an effort to provide the timeliest information, whenever possible, our Customer Advocate Group sends the CAO the first outage notification received from the Control Center for an outage event. First notifications often do not include full cause and/or follow-up action information since the restoration crew may not have yet completed its work related to the event. However, we believe it is more important to give the CAO notification as soon as possible rather than waiting for complete information before sending the CAO an alert.

We note that during high volume outage times, it is possible the Control Center does not send an email for each and every outage event. Often during these high volume events, the Company's Customer Advocate Group works with the Control Center to obtain more general status updates in lieu of individual emails. These updates, which are also forwarded to the CAO, usually include information on communities affected, total customers out of service, and any available information on expected restoration times. If available, information is also provided regarding crews brought in from other areas to assist restoration during times of escalated operations.

As with any process that involves human intervention, errors will occur, and notices may not be sent to the CAO. There are instances when the Control Center may not create a notice, or the Company's Customer Advocates do not forward a notice to the

CAO. In 2015, we did not send an email notice to the CAO for 27 of 259 major service interruptions. Twenty-two of the 27 email notices not sent were for events during a single heavy storm on July 17-18.

For all of these missed notifications during the July 17-18 storm, we have identified that the outages were not reported by the control center via email to the Customer Advocates, so the Customer Advocates could not forward notification to the CAO. During very large storm events when outages are so widespread, it can be difficult for the control center to quickly determine which individual feeders are out until the storm settles somewhat, especially for substations where there is no remote capability to determine whether or not the feeder breaker is out. For feeder and above events, our control center personnel have to manually enter information into the system to send a notification; it does not happen automatically at this time. Many of the July 17-18 outages were a result of trees on lines, and having trees on lines only complicates storm restoration. We are committed to providing notification for all qualifying outages, and will continue to monitor and improve our processes, as appropriate. We will review our training systems to further emphasize the importance of submitting outage notifications, and we would anticipate greater accuracy when additional remote capabilities are installed in the future.

Minn. R. 7826.0700, subp. 2 requires a utility to file a written report on any major service interruption in which ten percent or more of its Minnesota customers were without service for 24 hours or more. During 2015, there were no such interruptions on Xcel Energy's system.

*H. To the extent feasible, circuit interruption data, including:*

- *Identifying the worst performing circuit in each work center;*
- *Stating the criteria used to identify the worst performing circuit;*
- *Stating the circuit's SAIDI, SAIFI, and CAIDI;*
- *Explaining reasons that the circuit's performance is in last place; and*
- *Describing any operational changes the utility has made, is considering, or intends to make to improve its performance.*

Xcel Energy has a program entitled Feeder Performance Improvement Plan (FPIP). Under this plan, we identify the poorest performing circuits, the outage causes, and any changes needed to improve reliability. Xcel Energy defines poor performing Feeders as those with a SAIFI exceeding three times the average feeder SAIFI value, or a SAIDI exceeding four times the average SAIDI value.[4] The data used to

[4] SAIFI- 1.78 outages for 2015 in Minnesota. SAIDI – 562.7 minutes for 2015 in Minnesota

calculate SAIDI and SAIFI for these feeders is based on distribution level outages, except for planned and public damage, and has not been normalized for storm events.

The FPIP schedule spans the September through August time period, rather than a calendar year. We designed this schedule to implement solutions prior to the storm season and to achieve maximum benefit throughout the year. Thus, the data used to determine the poorest-performing circuits in this report spans the September 2014 to August 2015 period rather than the calendar year.

In September of each year, we calculate SAIFI and SAIDI for the most recent 12 months for each Feeder. We analyze the outage cause data to determine whether operational changes are necessary. Using this data, during the fall and early winter months, we plan any necessary construction projects. We begin construction projects involving overhead equipment first, with a goal of completion prior to the spring storm season. We begin underground construction as soon as possible after frost dissipation.

In accordance with the Commission's April 7, 2006 Order in Docket No E002/M-05-551, the Commission increased the number of Feeders that the Company includes in this report to 25 per work center, for a total of 100. In addition, the Order directed the Company to work with Commission Staff in developing a reporting format. **Attachment E** provides the resulting Feeder performance data for 2015, by work center, in two sections.

The first section of each work center's report provides a list of Feeders, sorted by SAIDI, using calendar year data and the format requested by Commission Staff. We note this format includes additional outages such as bulk power supply and planned outages that are not used internally to identify poor performers. Thus using the Company's criteria for identifying poorest-performing feeders will not result in 25 actual "poor performers" for each region, or 100 system-wide.

For this reason, some of the Feeders listed in Attachment E are not actual "poor performers," but rather are included in the list only because the Company is required to identify 25 Feeders, and their performance values were greater than other Feeders (but less than poor performer Feeders in that particular work center). For those top Feeders in each region that were identified as poor performers under the internal FPIP program, we have completed a reliability review and provide information on the reasons for the poor performance and any planned improvements in Attachment E.

We evaluate the worst performing feeders annually and prepare plans and projects to remedy the causes of outages; however, despite these efforts occasionally a feeder will

reappear on the worst performer list. This can be caused by several reasons, including: storms, distance from first responders, or quickly growing vegetation. In addition, feeders can be on the list due to poor tap performance which may not have been investigated in previous years.

We note that there was one feeder on the Attachment E list in both 2014 and 2015. As mentioned above, this is not unusual or necessarily cause for concern. The feeder is located in our Metro East work center, on a tree-dense road and bluff area and as a result of repeated tree issues we have plans to underground the line in 2016 to prevent future outages.

*I. Data on all known instances in which nominal electric service voltages on the utility's side of the meter did not meet the standards of the American National Standards Institute for nominal system voltages greater or less than voltage range B.*

Voltage deviations typically result with customers experiencing problems with electrical equipment. High voltage can result in bright light bulbs, and eventually shortens the life of the bulbs, or can result in electric motor damage. Low voltage can have equally-significant consequences.

A first responder initially handles customer voltage complaints. If a non-voltage cause cannot be found, we initiate a voltage investigation, and install a recording voltmeter. In the metro area, Xcel Energy has a dedicated technician that sets these recorders and performs the voltage investigations. In the non-metro areas, a first responder or a district representative conducts the voltage investigations.

Xcel Energy's allowable service voltage range is 120 volts plus/minus 5 percent, or a minimum of 114 volts to a maximum of 126 volts. As shown in the below table, Xcel Energy's allowable service voltage range falls within the American National Standards Institute (ANSI) voltage range B.

**Xcel Energy Allowable Service Voltage Range**

| | **Minimum Voltage** | **Maximum Voltage** |
|---|---|---|
| ANSI Voltage Range B (service voltage) | 110 | 127 |
| Xcel Energy Range (service voltage) | 114 | 126 |

During 2015, the Company conducted 333 voltage investigations. These investigations resulted in a diagnosis of a specific voltage problem in 67 of these cases. These problems are typically the result of transformer overloads or some other

equipment malfunction, such as capacitor banks or voltage regulators. In all other cases, either no problem was found or the root cause was attributed to something other than voltage deviations. In cases where the Company finds the voltage to be out of the acceptable range, we take appropriate actions, including but not limited to swapping transformers, upgrading transformers, or checking capacitor banks.

*J. Staffing levels at each work center, including the number of full-time equivalent positions held by field employees responsible for responding to trouble and for the operation and maintenance of distribution lines*

| | Metro East | Metro West | Northwest[5] | Southeast | Other * |
|---|---|---|---|---|---|
| **2015 Work Center Staffing Level Totals** | 132 | 199 | 35 | 55 | 54 |

* Xcel Energy field employees associated with the Fargo and Sioux Falls Service Centers respond to trouble and perform distribution line operation and maintenance in western Minnesota and the Dakotas.

Finally, we note that although we are reporting staffing levels by work center as required under the Rules, our field personnel respond to trouble and perform duties in other work centers as the need arises.

*K. Any other information the utility considers relevant in evaluating its reliability performance over the calendar year.*

We are committed to providing reliable service to our customers. We are available to provide any additional information the Commission may require on this issue.

## SERVICE QUALITY PERFORMANCE 2015

*7826.1400 Reporting Meter Reading Performance. The annual service quality report must include a detailed report on the utility's meter-reading performance, including for each customer class and for each calendar month:*

*A. The number and percentage of customer meters read by utility personnel.*
*B. The number and percentage of customer meters self-read by customers.*
*C. The number and percentage of customer meters that have not been read by utility personnel for periods of six to 12 months and periods of longer than 12 months, and an explanation as to why they have not been read.*

[5] In our 2014 report, we incorrectly reported the Northwest Service Center as having 25 employees. It should have read 35 employees. There has been no change in staffing level in the Northwest Service Center between 2014 and 2015.

We provide the required meter reading information as **Attachment F** to this filing. Attachment F includes the reporting refinements discussed in our Reply Comments filed in the 2012 Annual Report electric service quality docket, Docket No. E002/M-13-255 on July 31, 2013. Attachment F excludes multiple reads per month when reporting meter read totals so that the "Percent Read by Company" does not exceed 100% in any given month, and we have reported the number of meters installed by month rather than only a year-end total.

In this year's report, we have made a further reporting refinement to remove "deleted meters" from the total number of meters installed per month. The "deleted meters" designation is given to meters that were incorrectly entered into the system and were never truly installed at a premise. Therefore, we feel that removing them from this report is appropriate. As a result, our total number of installed meters in 2015 is less than in 2014. To put this issue in context, approximately 5,250 meters were removed from our 2015 count. We will use this methodology going forward.

As discussed in our July 25, 2014 Reply Comments in Docket No. E002/M-14-131, the meters read percentage may be artificially low in certain months when the percentage of meters read is calculated by dividing the number of meters read in a calendar month, excluding multiple reads on a given meter, by the number of total meters. In particular, in February and November there are fewer business days than the 21-day meter read cycle. The data in Attachment F includes all reads in a calendar month instead of a billing-month/read cycle, so when multiple meter reads for a given meter were excluded, the percentage of meters read is much lower in February and November than most other months.

*D. Data on monthly meter reading staffing levels, by work center or geographical area.*

The following data for 2015 includes full-time equivalent numbers and does not count temporary staff positions. The "Other" category numbers includes Xcel Energy personnel located in the Fargo and Sioux Falls Service Centers who read meters in western Minnesota and the Dakotas.

| | Jan-15 | Feb-15 | Mar-15 | Apr-15 | May-15 | Jun-15 | Jul-15 | Aug-15 | Sep-15 | Oct-15 | Nov-15 | Dec-15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Metro East | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Metro West | 5 | 5 | 5 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Northwest | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Southeast | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Other | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

Overall meter reading staffing levels have remained relatively stable compared to last year given continued reliable performance of the automated meter reading system.

> ***7826.1500 Reporting Involuntary Disconnections.*** *The annual service quality report must include a detailed report on involuntary disconnections of service, including, for each customer class and each calendar month:*
>
> *A. The number of customers who received disconnection notices.*
> *B. The number of customers who sought cold weather rule protection under chapter 7820 and the number who were granted cold weather rule protection.*
> *C. The total number of customers whose service was disconnected involuntarily and the number of these customers restored to service within 24 hours.*
> *D. The number of disconnected customers restored to service by entering into a payment plan.*

We provide the required information as **Attachment G** to this Annual Report.

> ***7826.1600 Reporting Service Extension Request Response Times.*** *The annual service quality report must include a report on service extension request response times, including, for each customer class and each calendar month:*
>
> *A. The number of customers requesting service to a location not previously served by the utility and the intervals between the date service was installed and the later of the in-service date requested by the customer or the date the premises were ready for service.*
> *B. The number of customers requesting service to a location previously served by the utility, but not served at the time of the request, and the intervals between the date service was installed and the later of the in-service date requested by the customer or the date the premises were ready for service.*

We provide the required information for Part A above as **Attachment H** to this Annual Report. Attachment H includes data on service installations that require construction.

For Part B above, we note that 315,642 customers requested service at a location previously served by the Company in 2015. With respect to situations where we supply service to a location previously served by the Company, we handle these requests on the next business day. Responding to such a request generally involves setting a meter and connecting the service. Such cases are not reflected in the information provided in Attachment H.

> *7826.1700 Reporting Call Center Response Times. The annual service quality report must include a detailed report on call center response times, including calls to the business office and calls regarding service interruptions. The report must include a month-by-month breakdown of this information.*

We provide the required information as **Attachment I** to this Annual Report.

Pursuant to the Commission's November 3, 2004 Order in Docket No. E002/M-04-511, we have included credit calls in our reported call center response time. However, to be consistent with past reporting practices and for ease of comparison with our historical data, we also provide the data for this metric excluding credit calls.

- Our call center service level *including* credit calls is 82.2 percent of calls answered in 20 seconds or less; and
- Our call center service level *excluding* credit calls is 81.3 percent of calls answered in 20 seconds or less.

Minn. R. 7826.1200, subp. 1 requires that we answer 80 percent of calls made to the business office during regular business hours within 20 seconds. We note that our Call Centers are staffed 24 hours a day, 7 days a week, and our IVR is used in the same manner across this time period, therefore these are our "business hours." So, our performance includes call and service level information on a 24-hours-a-day, 7 days-a-week-basis. Line 31 on Attachment I provides our average speed of answer (ASA), and the rows below break out the ASA by call center.

> *7826.1800 Reporting Emergency Medical Account Status. The annual service quality report must include the number of customers who requested emergency medical account status under Minnesota Statutes, section 216B.098, subdivision 5, the number whose applications were granted, and the number whose applications were denied and the reasons for each denial.*

We provide the required information as **Attachment G** to this Annual Report.

*7826.1900 Reporting Customer Deposits.* *The annual service quality report must include the number of customers who were required to make a deposit as a condition of receiving service.*

During 2015, we requested a total of 561 deposits as a condition of service for our residential customers that had filed for bankruptcy. We request these deposits upon notification from the bankruptcy court and/or the customer of their bankruptcy petition.

*7826.2000 Reporting Customer Complaints.* *The annual service quality report must include a detailed report on complaints by customer class and calendar month, including at least the following information:*

*A. The number of complaints received.*
*B. The number and percentage of complaints alleging billing errors, inaccurate metering, wrongful disconnection, high bills, inadequate service, and the number involving service-extension intervals, service-restoration intervals, and any other identifiable subject matter involved in five percent or more of customer complaints.*
*C. The number and percentage of complaints resolved upon initial inquiry, within ten days, and longer than ten days.*
*D. The number and percentage of all complaints resolved by taking any of the following actions:*
    *(1) Taking the action the customer requested;*
    *(2) Taking an action the customer and the utility agree is an acceptable compromise.*
    *(3) Providing the customer with information that demonstrates that the situation complained of is not reasonably within the control of the utility.*
    *(4) Refusing to take the action the customer requested.*
*E. The number of complaints forwarded to the utility by the commission's Consumer Affairs Office for further investigation and action.*

We provide the required information as **Attachment J** to this Annual Report.

Pages 1-4 of Attachment J contain information on customer complaints handled by the Company's Customer Advocate group. Pages 5-16 contain information on complaints handled upon initial inquiry in the Call Centers.

## ADDITIONAL REPORTING REQUIREMENTS

### A. Smart Grid Annual Report

The Commission's June 5, 2009 Order and the March 4, 2011 NOTICE CLARIFYING INFORMATION SOUGHT IN SMART GRID REPORTS in Docket No. E999/CI-08-948 required us to provide an annual update on our Smart Grid projects. This reporting requirement was discontinued by the Commission's December 31, 2014 Order closing the docket, so we have eliminated **Attachment K** from the Service Quality Report for 2014.

### B. Meter Equipment Malfunctions Tariff Annual Report

In compliance with the Commission's Order dated November 30, 2010 in Docket Nos. G002/CI-08-871 and E,G002/M-09-224, we provide a review and report on the following items relating to our Meter Equipment Malfunctions tariff:

- Volume of Investigate and Remediate Field orders;
- Volume of Investigate and Refer Field orders;
- Volume of Remediate Upon Referral Field orders;
- Average response time for each of the above categories by month and year;
- Minimum days, maximum days, and standard deviations for each category; and
- Volume of excluded field orders.

In summary, we performed within the field response parameters prescribed in our tariff, completing a total of 2,548 electric and 2,956 natural gas orders with an average response time of 3.12 and 2.94 days, respectively. We additionally completed 219 electric and 533 natural gas field orders for which we experienced access and/or environmental issues, both allowable Exclusions under the tariff. We provide our detailed results as **Attachment O**.

### C. MAIFI

In Compliance with ordering paragraph 32 of the Commission's FINDINGS OF FACT, CONCLUSIONS, AND ORDER issued September 3, 2013 in Docket No. E002/GR-12-961, we provide additional reporting of currently available MAIFI (Momentary Average Interruption Frequency Index) data as Attachment N1 to this filing.

## D. New Service Quality and Grid Modernization Metrics

The Commission's October 23, 2015 Order in Docket No. E002/M-15-324, our Annual Electric Service Quality Report for 2014 required the Company to convene a group of stakeholders to discuss new or additional metrics and standards to assess service quality. We provide the results of those discussions in **Attachment P** and provide a list of current service quality reporting requirements in **Attachment Q**.

## PROPOSED ELECTRIC RELIABILITY STANDARDS FOR 2016

As discussed above, we submitted proposed reliability standards for 2015 on April 1, 2015. Our proposed standards were approved by the Commission in its October 23, 2015 Order.

We calculated the standards that we propose for 2016 using the same methodology approved for our 2015 reliability standards.

On pages 6 and 7 of this filing, we provide details regarding the approved method of calculation and storm-normalization process used for our 2015 reliability standards. In this Section, we provide a brief discussion of reliability indices and our method of calculation, and we set forth our proposed reliability standards for 2016.

Minn. R. 7826.0600, subp. 1 requires each utility to propose standards for the following reliability indices:

- System Average Interruption Duration Index,
- System Average Interruption Frequency Index, and
- Customer Average Interruption Duration Index.

SAIDI measures the average total number of minutes a customer was without power during a calendar year. This index is calculated as follows:

$$\textbf{SAIDI} = \frac{\textbf{Total Customer Minutes of Sustained Outages}}{\textbf{Number of Customers}}$$

SAIFI measures the average frequency of sustained service interruptions per customer during a calendar year and is calculated as follows:

$$\textbf{SAIFI} = \frac{\textbf{Total Number of Sustained Customer Interruptions}}{\textbf{Number of Customers}}$$

CAIDI measures the average outage time a customer could expect to be without power if they experienced a sustained outage and is calculated as follows:

$$\textbf{CAIDI} = \frac{\textbf{Total Customer Minutes of Sustained Outages}}{\textbf{Total number of Sustained Customer Interruptions}}$$

Our electric reliability standards approved for 2015 were based on the average of our 5-year reliability performance (2010-2014). Consistent with that methodology, we provide as **Attachment L** to this Annual Report, our historical reliability performance for the 2011-2015 period to support our proposed 2016 standards. These calculations use storm-normalized data for all levels of outages (*i.e.* transmission, substation, and distribution) and a customer count based on the number of customers' billing accounts and meters.

Minn. R. Chapter 7826 allows utilities to report reliability performance using "storm-normalized" data. Storm-normalized data is defined by Minn. R. 7826.0200, subp. 9 as "data that has been adjusted to neutralize the effects of outages due to major storms." As noted above, we propose standards for 2016 that are consistent with those approved for 2015.

Minn. R. 7826.0200, subp. 13 defines work center as a portion of a utility's assigned service area that it treats as an administrative subdivision for purposes of maintaining and repairing its distribution system. Xcel Energy defines its work centers under the rule as our regional service areas. These regions are:

- Metro East
- Metro West
- Northwest
- Southeast

Customer outages on our system are categorized by region, and all of our delivery system work management is tied to these regional divisions.

## A. Proposed Reliability Standards for 2016

As required by Minn. R. 7826.0600, subp. 1, we propose the following 2016 standards for SAIFI, SAIDI, and CAIDI.

Our proposed standards for SAIDI and SAIFI are the average of the five years of historical data (provided in Attachment L). The CAIDI standards are calculated from the proposed SAIDI and SAIFI standards using the mathematical relationship

between the indices: CAIDI = SAIDI/SAIFI. The methodology used to calculate these standards is described in detail above, and is summarized below:

- Include outages at all levels (distribution, substation, and transmission).
- Include all causes.
- Include credit for partial restoration.
- Include customers located in Minnesota that are part of the ND/SD work centers.
- Based on the number of customers' billing accounts and meters.
- Based on storm-normalized data.

**Proposed 2016 Reliability Standards**

| | | **Proposed Standard** |
|---|---|---|
| Metro East | SAIDI | 86.13 |
| | SAIFI | 0.86 |
| | CAIDI | 100.01 |
| Metro West | SAIDI | 92.35 |
| | SAIFI | 0.89 |
| | CAIDI | 103.33 |
| Northwest | SAIDI | 92.66 |
| | SAIFI | 0.82 |
| | CAIDI | 113.15 |
| Southeast | SAIDI | 94.14 |
| | SAIFI | 0.72 |
| | CAIDI | 130.78 |

## V. EFFECT OF CHANGE UPON XCEL ENERGY REVENUE

Approval of our annual report and the reliability performance standards proposed in this Petition will not result in any changes to Xcel Energy's revenue.

## CONCLUSION

Xcel Energy is committed to providing our customers with quality, reliable service. We appreciate this opportunity to report our performance to the Commission, and respectfully request that the Commission accept our annual report on safety, reliability, and service quality. We also request that the Commission approve our proposed reliability standards for 2016 as detailed in this Petition.

Dated: April 1, 2016

Northern States Power Company

STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

| | |
|---|---|
| Beverly Jones Heydinger | Chair |
| Nancy Lange | Commissioner |
| Dan Lipschultz | Commissioner |
| Matthew Schuerger | Commissioner |
| John Tuma | Commissioner |

IN THE MATTER OF NORTHERN STATES POWER COMPANY'S ANNUAL REPORT ON SAFETY, RELIABILITY, AND SERVICE QUALITY FOR 2015; AND PETITION FOR APPROVAL OF ELECTRIC RELIABILITY STANDARDS FOR 2016

DOCKET NO. E002/M-16-___

**ANNUAL REPORT AND PETITION**

## SUMMARY OF FILING

Please take notice that on April 1, 2016, Northern States Power Company, doing business as Xcel Energy, filed with the Minnesota Public Utilities Commission its Annual Report on safety, reliability, and service quality as required under Minn. R. 7826.0400, 7826.0500, and 7826.1300. This filing also includes a Petition for approval of the Company's proposed electric reliability standards for 2016 as required under Minn. R. 7826.0600. In addition, this Annual Report contains: 1) a review and report on items relating to our Meter Equipment Malfunctions tariff in compliance with the Commission's November 30, 2010 Order in Docket Nos. G002/CI-08-871 and E,G002/M-09-224; and 2) results of stakeholder discussions around new/additional metrics and standards to assess service quality in compliance with the Commission's October 23, 2015 Order in Docket No. E002/M-15-324.

## U.S. Department of Labor- Bureau of Labor Statistics
## Survey of Occupational Injuries & Illnesses 2015
## Xcel Energy - Minnesota

Data from 2015 OSHA Form 300A

| Location | Ave Empl Count | Ttl Hours Worked | Severity Counts | | | | Day Count | | Injury/Illness Classification Counts | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Deaths | Days Away | Restricted Duty | Other | Restricted Duty | Lost Time | Injuries | Skin Disorders | Respiratory | Poisoning | Hearing | Other |
| Chestnut Annex | 172 | 357,427 | 0 | 1 | 0 | 1 | 5 | 70 | 2 | 0 | 0 | 0 | 0 | 0 |
| Mankato Service Center | 34 | 65,881 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Monticello Nuclear | 591 | 1,209,881 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Prairie Island Nuclear | 818 | 1,737,732 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Riverside Generating Plant | 40 | 78,977 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Riverside Training Center | 10 | 17,279 | 0 | 1 | 0 | 0 | 7 | 5 | 1 | 0 | 0 | 0 | 0 | 0 |
| Sherco Plant | 348 | 732,425 | 0 | 1 | 0 | 4 | 33 | 147 | 5 | 0 | 0 | 0 | 0 | 0 |
| Summary | 2,013 | 4,199,602 | 0 | 3 | 0 | 7 | 45 | 222 | 10 | 0 | 0 | 0 | 0 | 0 |

| Event Number | Event Date | Event Cause Code | Event Cause Description | Paid Sum | Bodily Injury |
|---|---|---|---|---|---|
| EV2015125115 | 1/1/2015 | 1107 | Conductors - Underground | $407.75 | $0.00 |
| EV2015125342 | 1/4/2015 | 1136 | Outage | $4,951.17 | $0.00 |
| EV2015125337 | 1/8/2015 | 1106 | Conductors - Overhead | $155.00 | $0.00 |
| EV2015125155 | 1/16/2015 | 1106 | Conductors - Overhead | $49,785.70 | $0.00 |
| EV2015125232 | 1/16/2015 | 1107 | Conductors - Underground | $722.00 | $0.00 |
| EV2015125275 | 1/17/2015 | 1110 | Equipment Failure | $0.00 | $0.00 |
| EV2015125570 | 1/17/2015 | 1101 | Abnormal Voltage | $70.00 | $0.00 |
| EV2015126423 | 1/20/2015 | 1101 | Abnormal Voltage | $502.74 | $0.00 |
| EV2015125271 | 1/22/2015 | 1106 | Conductors - Overhead | $170.00 | $0.00 |
| EV2015125352 | 1/30/2015 | 1134 | Work Performed Electrical | $0.00 | $0.00 |
| EV2015125363 | 1/31/2015 | 1136 | Outage | $0.00 | $0.00 |
| EV2015125578 | 2/4/2015 | 1101 | Abnormal Voltage | $0.00 | $0.00 |
| EV2015125296 | 2/6/2015 | 1106 | Conductors - Overhead | $5,535.28 | $0.00 |
| EV2015125681 | 2/6/2015 | 1106 | Conductors - Overhead | $604.30 | $0.00 |
| EV2015125607 | 2/8/2015 | 1101 | Abnormal Voltage | $5,653.55 | $0.00 |
| EV2015125669 | 2/9/2015 | 1107 | Conductors - Underground | $130.00 | $0.00 |
| EV2015125479 | 2/16/2015 | 1101 | Abnormal Voltage | $0.00 | $0.00 |
| EV2015125902 | 2/23/2015 | 1101 | Abnormal Voltage | $821.00 | $0.00 |
| EV2015125487 | 2/26/2015 | 1136 | Outage | $0.00 | $0.00 |
| EV2015126283 | 3/2/2015 | 1136 | Outage | $0.00 | $0.00 |
| EV2015125531 | 3/3/2015 | 1136 | Outage | $199.00 | $0.00 |
| EV2015125748 | 3/18/2015 | 1122 | Poles & Towers | $134.93 | $0.00 |
| EV2015125664 | 3/19/2015 | 1130 | Tree Trimming | $275.00 | $0.00 |
| EV2015125875 | 3/19/2015 | 1136 | Outage | $0.00 | $0.00 |
| EV2015125876 | 3/25/2015 | 1136 | Outage | $0.00 | $0.00 |
| EV2015125576 | 4/1/2015 | 1131 | Vegetation | $0.00 | $0.00 |
| EV2015125756 | 4/1/2015 | 1130 | Tree Trimming | $275.00 | $0.00 |
| EV2015125794 | 4/1/2015 | 1122 | Poles & Towers | $3,995.00 | $0.00 |
| EV2015126035 | 4/2/2015 | 1136 | Outage | $0.00 | $0.00 |
| EV2015125690 | 4/4/2015 | 1136 | Outage | $213.75 | $0.00 |
| EV2015125752 | 4/6/2015 | 1136 | Outage | $0.00 | $0.00 |
| EV2015125803 | 4/15/2015 | 1129 | Transformer Under Ground | $646.15 | $0.00 |
| EV2015125798 | 4/17/2015 | 1136 | Outage | $190.00 | $0.00 |
| EV2015126050 | 4/17/2015 | 1101 | Abnormal Voltage | $506.75 | $0.00 |
| EV2015125760 | 4/20/2015 | 1136 | Outage | $60.00 | $0.00 |
| EV2015125825 | 4/20/2015 | 1106 | Conductors - Overhead | $140.00 | $0.00 |
| EV2015126135 | 4/20/2015 | 1128 | Transformer Overhead | $689.00 | $0.00 |
| EV2015125872 | 4/21/2015 | 1128 | Transformer Overhead | $1,462.23 | $0.00 |
| EV2015125807 | 4/22/2015 | 1136 | Outage | $125.00 | $0.00 |
| EV2015125824 | 4/24/2015 | 1107 | Conductors - Underground | $486.75 | $0.00 |
| EV2015126168 | 4/28/2015 | 1101 | Abnormal Voltage | $0.00 | $0.00 |
| EV2015126048 | 5/4/2015 | 1136 | Outage | $0.00 | $0.00 |
| EV2015125960 | 5/6/2015 | 1136 | Outage | $0.00 | $0.00 |
| EV2015126102 | 5/8/2015 | 1101 | Abnormal Voltage | $4,543.67 | $0.00 |
| EV2015126378 | 5/8/2015 | 1134 | Work Performed Electrical | $1,125.00 | $0.00 |
| EV2015125939 | 5/12/2015 | 1136 | Outage | $0.00 | $0.00 |
| EV2015126123 | 5/13/2015 | 1106 | Conductors - Overhead | $9,951.27 | $0.00 |

| Event Number | Event Date | Event Cause Code | Event Cause Description | Paid Sum | Bodily Injury |
|---|---|---|---|---|---|
| EV2015126096 | 5/15/2015 | 1136 | Outage | $0.00 | $0.00 |
| EV2015126332 | 5/16/2015 | 1107 | Conductors - Underground | $450.00 | $0.00 |
| EV2015126055 | 5/17/2015 | 1122 | Poles & Towers | $3,021.60 | $0.00 |
| EV2015126185 | 5/18/2015 | 1107 | Conductors - Underground | $190.00 | $0.00 |
| EV2015126271 | 5/20/2015 | 1121 | Other not listed | $800.00 | $0.00 |
| EV2015125998 | 5/21/2015 | 1134 | Work Performed Electrical | $250.00 | $0.00 |
| EV2015126116 | 5/24/2015 | 1106 | Conductors - Overhead | $2,140.27 | $0.00 |
| EV2015126502 | 5/26/2015 | 1101 | Abnormal Voltage | $356.00 | $0.00 |
| EV2015126192 | 5/28/2015 | 1106 | Conductors - Overhead | $78.00 | $0.00 |
| EV2015126114 | 6/10/2015 | 1136 | Outage | $3,311.98 | $0.00 |
| EV2015126160 | 6/12/2015 | 1136 | Outage | $0.00 | $0.00 |
| EV2015126190 | 6/12/2015 | 1136 | Outage | $367.00 | $0.00 |
| EV2015126129 | 6/16/2015 | 1128 | Transformer Overhead | $350.00 | $0.00 |
| EV2015126282 | 6/22/2015 | 1136 | Outage | $730.80 | $0.00 |
| EV2015126308 | 6/22/2015 | 1131 | Vegetation | $0.00 | $0.00 |
| EV2015126505 | 6/23/2015 | 1101 | Abnormal Voltage | $0.00 | $0.00 |
| EV2015126692 | 6/23/2015 | 1106 | Conductors - Overhead | $2,016.23 | $0.00 |
| EV2015127106 | 6/23/2015 | 1106 | Conductors - Overhead | $511.85 | $0.00 |
| EV2015126387 | 6/24/2015 | 1128 | Transformer Overhead | $1,215.00 | $0.00 |
| EV2015126196 | 6/29/2015 | 1130 | Tree Trimming | $150.00 | $0.00 |
| EV2015127121 | 7/6/2015 | 1136 | Outage | $125.00 | $0.00 |
| EV2015126656 | 7/13/2015 | 1128 | Transformer Overhead | $2,197.71 | $0.00 |
| EV2015126581 | 7/15/2015 | 1101 | Abnormal Voltage | $0.00 | $0.00 |
| EV2015126317 | 7/16/2015 | 1101 | Abnormal Voltage | $0.00 | $0.00 |
| EV2015126515 | 7/16/2015 | 1136 | Outage | $0.00 | $0.00 |
| EV2015126536 | 7/17/2015 | 1122 | Poles & Towers | $6,384.13 | $0.00 |
| EV2015126595 | 7/17/2015 | 1130 | Tree Trimming | $100.00 | $0.00 |
| EV2015126605 | 7/17/2015 | 1130 | Tree Trimming | $336.00 | $0.00 |
| EV2015126284 | 7/18/2015 | 1136 | Outage | $375.00 | $0.00 |
| EV2015126420 | 7/18/2015 | 1130 | Tree Trimming | $3,521.00 | $0.00 |
| EV2015127007 | 7/18/2015 | 1122 | Poles & Towers | $3,951.52 | $0.00 |
| EV2015127093 | 7/19/2015 | 1101 | Abnormal Voltage | $234.98 | $0.00 |
| EV2015126504 | 7/25/2015 | 1107 | Conductors - Underground | $0.00 | $0.00 |
| EV2015126405 | 7/28/2015 | 1136 | Outage | $0.00 | $0.00 |
| EV2015126613 | 7/28/2015 | 1101 | Abnormal Voltage | $0.00 | $0.00 |
| EV2015127263 | 7/28/2015 | 1107 | Conductors - Underground | $2,885.00 | $0.00 |
| EV2015126440 | 7/29/2015 | 1136 | Outage | $0.00 | $0.00 |
| EV2015126795 | 7/31/2015 | 1131 | Vegetation | $22,338.21 | $0.00 |
| EV2015126315 | 8/2/2015 | 1131 | Vegetation | $0.00 | $0.00 |
| EV2015126690 | 8/2/2015 | 1136 | Outage | $0.00 | $0.00 |
| EV2015126625 | 8/4/2015 | 1128 | Transformer Overhead | $1,536.75 | $0.00 |
| EV2015126667 | 8/4/2015 | 1106 | Conductors - Overhead | $295.00 | $0.00 |
| EV2015126523 | 8/5/2015 | 1136 | Outage | $0.00 | $0.00 |
| EV2015126575 | 8/6/2015 | 1107 | Conductors - Underground | $547.75 | $0.00 |
| EV2015126627 | 8/6/2015 | 1106 | Conductors - Overhead | $939.47 | $0.00 |
| EV2015126691 | 8/6/2015 | 1101 | Abnormal Voltage | $0.00 | $0.00 |
| EV2015126639 | 8/7/2015 | 1106 | Conductors - Overhead | $43.50 | $0.00 |

| Event Number | Event Date | Event Cause Code | Event Cause Description | Paid Sum | Bodily Injury |
|---|---|---|---|---|---|
| EV2015126657 | 8/7/2015 | 1128 | Transformer Overhead | $2,150.26 | $0.00 |
| EV2015126541 | 8/12/2015 | 1136 | Outage | $0.00 | $0.00 |
| EV2015126897 | 8/14/2015 | 1101 | Abnormal Voltage | $359.99 | $0.00 |
| EV2015126679 | 8/17/2015 | 1101 | Abnormal Voltage | $295.00 | $0.00 |
| EV2015126945 | 8/17/2015 | 1106 | Conductors - Overhead | $138.26 | $0.00 |
| EV2015126851 | 8/26/2015 | 1101 | Abnormal Voltage | $600.00 | $0.00 |
| EV2015126958 | 8/26/2015 | 1110 | Equipment Failure | $928.76 | $0.00 |
| EV2015126873 | 9/1/2015 | 1134 | Work Performed Electrical | $149.00 | $0.00 |
| EV2015126628 | 9/7/2015 | 1122 | Poles & Towers | $1,627.00 | $0.00 |
| EV2015126900 | 9/9/2015 | 1107 | Conductors - Underground | $120.00 | $0.00 |
| EV2015126818 | 9/11/2015 | 1134 | Work Performed Electrical | $163.40 | $0.00 |
| EV2015127086 | 9/11/2015 | 1134 | Work Performed Electrical | $100.00 | $0.00 |
| EV2015126836 | 9/12/2015 | 1134 | Work Performed Electrical | $0.00 | $0.00 |
| EV2015127041 | 9/15/2015 | 1134 | Work Performed Electrical | $3,093.00 | $0.00 |
| EV2015126894 | 9/16/2015 | 1136 | Outage | $244.97 | $0.00 |
| EV2015126684 | 9/19/2015 | 1101 | Abnormal Voltage | $0.00 | $0.00 |
| EV2015126848 | 9/25/2015 | 1136 | Outage | $0.00 | $0.00 |
| EV2015127188 | 9/30/2015 | 1128 | Transformer Overhead | $1,003.22 | $0.00 |
| EV2015126986 | 10/5/2015 | 1136 | Outage | $0.00 | $0.00 |
| EV2015127088 | 10/5/2015 | 1122 | Poles & Towers | $0.00 | $0.00 |
| EV2015126985 | 10/6/2015 | 1101 | Abnormal Voltage | $0.00 | $0.00 |
| EV2015127118 | 10/9/2015 | 1129 | Transformer Under Ground | $1,471.90 | $0.00 |
| EV2015127010 | 10/11/2015 | 1128 | Transformer Overhead | $979.23 | $0.00 |
| EV2015127198 | 10/12/2015 | 1136 | Outage | $190.00 | $0.00 |
| EV2015127265 | 10/12/2015 | 1106 | Conductors - Overhead | $2,514.39 | $0.00 |
| EV2015127128 | 10/13/2015 | 1101 | Abnormal Voltage | $237.44 | $0.00 |
| EV2015127113 | 10/14/2015 | 1122 | Poles & Towers | $260.45 | $0.00 |
| EV2015126904 | 10/17/2015 | 1101 | Abnormal Voltage | $0.00 | $0.00 |
| EV2015127200 | 10/19/2015 | 1136 | Outage | $515.81 | $0.00 |
| EV2015127165 | 10/24/2015 | 1128 | Transformer Overhead | $880.28 | $0.00 |
| EV2015126942 | 10/28/2015 | 1129 | Transformer Under Ground | $0.00 | $0.00 |
| EV2015127126 | 10/29/2015 | 1101 | Abnormal Voltage | $506.75 | $0.00 |
| EV2015126929 | 11/3/2015 | 1122 | Poles & Towers | $0.00 | $0.00 |
| EV2015127234 | 11/6/2015 | 1136 | Outage | $0.00 | $0.00 |
| EV2015127303 | 11/12/2015 | 1106 | Conductors - Overhead | $0.00 | $0.00 |
| EV2015127292 | 11/13/2015 | 1106 | Conductors - Overhead | $500.00 | $0.00 |
| EV2015127252 | 11/14/2015 | 1101 | Abnormal Voltage | $0.00 | $0.00 |
| EV2015127104 | 11/18/2015 | 1122 | Poles & Towers | $5,272.00 | $0.00 |
| EV2015127267 | 11/21/2015 | 1122 | Poles & Towers | $50.00 | $0.00 |
| EV2015127261 | 11/23/2015 | 1134 | Work Performed Electrical | $4,956.77 | $0.00 |
| EV2015127308 | 11/28/2015 | 1106 | Conductors - Overhead | $0.00 | $0.00 |
| EV2015127247 | 12/4/2015 | 1101 | Abnormal Voltage | $0.00 | $0.00 |
| EV2015127360 | 12/6/2015 | 1101 | Abnormal Voltage | $0.00 | $0.00 |
| EV2015127321 | 12/22/2015 | 1134 | Work Performed Electrical | $0.00 | $0.00 |

**PUBLIC DOCUMENT**
**SECURITY AND PRIVACY DATA EXCISED**



| Line | Begin Date | Begin Time | Duration Hrs | Duration Mins | Cause | Comments | Remedial Action |
|---|---|---|---|---|---|---|---|
| [Security Data Begins | | | | | | [Security and Privacy Data Begins | |
| | 1/4/2015 | 18:47 | 0 | 28 | Connector Failure Compression Sleeve | | Field switched transmission line, repaired failed connector sleeve |
| | 1/7/2015 | 14:38 | 1 | 10 | Other Utility | | No Remedial Action by Xcel Energy |
| | 3/16/2015 | 07:31 | 1 | 50 | Other-Vandalism | | Repaired breaker control wiring |
| | | | 2 | 35 | | | |
| | 3/18/2015 | 12:41 | 0 | 6 | Human Error | | No Remedial Action by Xcel Energy |
| | 3/26/2015 | 11:32 | 0 | 11 | External- Crane Contact | | Construction crew and air patrol patrolled line for damage and found nothing |
| | | | 0 | 19 | | | |
| | 3/29/2015 | 04:46 | 8 | 8 | Pole Fire | | Repaired transmission pole and closed in sub breaker |
| | 4/6/2015 | 20:31 | 0 | 32 | Pole Fire | | Repaired Cross-Arm |
| | 4/9/2015 | 04:45 | 1 | 17 | Pole Fire | | Repaired Damaged Pole |
| | 4/19/2015 | 01:18 | 1 | 13 | Other Utility | | No Remedial Action by Xcel Energy |
| | | | 2 | 32 | | | |
| | 5/2/2015 | 17:08 | 1 | 1 | Lightning Arrestor Porcelain | | Transmission switched sub back in |
| | | | 1 | 2 | | | |
| | 5/6/2015 | 14:56 | 1 | 23 | Unknown Cause Not Determined | | No Remedial Action by Xcel Energy |
| | 5/9/2015 | 15:38 | 0 | 49 | Unknown Cause Not Determined | | No Remedial Action by Xcel Energy |
| | 5/18/2015 | 03:11 | 0 | 16 | Conductor Contact - Galloping | | No Remedial Action by Xcel Energy |
| | 5/18/2015 | 03:35 | 2 | 41 | Conductor Contact - Galloping | | No Remedial Action by Xcel Energy |
| | 5/18/2015 | 07:57 | 1 | 14 | Conductor Contact - Galloping | | No Remedial Action by Xcel Energy |
| Security Data Ends] | | | | | | Security and Privacy Data Ends] | |

**PUBLIC DOCUMENT**
**SECURITY AND PRIVACY DATA EXCISED**



| Line | Begin Date | Begin Time | Duration Hrs | Duration Mins | Cause | Comments | Remedial Action |
|---|---|---|---|---|---|---|---|
| **[Security Data Begins** | | | | | | **[Security and Privacy Data Begins** | |
| | 6/15/2015 | 20:55 | 0 | 14 | Public Damage Other/Unknown | | Power Restored Via Switching and Repaired Damaged Pole |
| | 6/20/2015 | 04:09 | 0 | 8 | Foreign Utility | | No Remedial Action by Xcel Energy |
| | | | 1 | 25 | | | |
| | 6/22/2015 | 08:18 | 0 | 44 | Veg Tree Outside Main Corridor | | No Remedial Action by Xcel Energy |
| | 6/22/2015 | 18:40 | 0 | 20 | Sleeve Failure | | Repaired Down Conductor |
| | 7/17/2015 | 23:59 | 4 | 7 | Unknown Cause Not Determined | | No Remedial Action by Xcel Energy |
| | 7/18/2015 | 00:00 | 8 | 51 | Unknown Cause Not Determined | | No Remedial Action by Xcel Energy |
| | | | 11 | 4 | | | |
| | 7/18/2015 | 01:28 | 4 | 54 | Veg Tree Outside Main Corridor | | No Remedial Action by Xcel Energy |
| | 7/21/2015 | 13:59 | 0 | 28 | Foreign Utility | | No Remedial Action by Xcel Energy |
| | | | 0 | 48 | | | |
| | 7/24/2015 | 02:04 | 1 | 13 | Foreign Utility | | No Remedial Action by Xcel Energy |
| | 8/4/2015 | 16:33 | 0 | 13 | Unknown Cause Not Determined | | No Remedial Action by Xcel Energy |
| | 8/9/2015 | 04:03 | 0 | 15 | Public Damage Broken Pole | | Repaired Damaged Pole |
| | | | 1 | 56 | | | |
| | 8/11/2015 | 12:08 | 0 | 47 | Intentional Clear for Trbl/Emer | | Repaired Damaged Guy Wire |
| | 8/22/2015 | 15:35 | 0 | 43 | Debris In Line | | Repaired Damaged Cross Arm and Down Conductor |
| | | | 0 | 45 | | | |
| | 9/17/2015 | 15:29 | 0 | 26 | Unknown Cause Not Determined | | No Remedial Action by Xcel Energy |
| | 11/12/2015 | 12:54 | 1 | 48 | Connector Failure Bolted | | Repaired Broken Jumper |
| **Security Data Ends]** | | | | | | **Security and Privacy Data Ends]** | |

| Line | Begin Date | Begin Time | Duration Hrs | Duration Mins | Cause | Comments | Remedial Action |
|---|---|---|---|---|---|---|---|
| **[Security Data Begins** | | | | | | **[Security and Privacy Data Begins** | |
| | 12/21/2015 | 15:07 | 1 | 25 | Breaker Failure Oil Circuit Breaker | | Opened 4s36 switch feeding sub. Opened A and B switches and closed C switch bypassing breaker and regulators. Refused substation transformer fuses. Closed 4S36 restoring power to customers. |
| **Security Data Ends]** | | | | | | **Security and Privacy Data Ends]** | |

**January**

# 2015 MN Feeder Level Outages

**10 total qualifying events** **0 events with no email**

**[SECURITY DATA BEGINS**

| | Feeder | Primary Event # | Begin Time | Completion Time | Duration Min. | Customers Out | Region | Email sent to CAO | Email 1 | Email 2 | Email 3 | Email 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 1132414 | 01/07/15 14:38 | 01/07/15 15:48 | 70 | 579 | Southeast | X | X | X | | |
| 2 | | 1132408 | 01/07/15 14:38 | 01/07/15 15:48 | 70 | 683 | Southeast | X | X | X | | |
| 3 | | 1132912 | 01/10/15 19:57 | 01/10/15 22:22 | 132 | 1,898 | Metro East | X | X | X | | |
| 4 | | 1132967 | 01/11/15 00:33 | 01/11/15 01:48 | 75 | 917 | Metro West | X | X | X | X | |
| 5 | | 1133289 | 01/13/15 05:47 | 01/13/15 07:52 | 125 | 2,314 | Metro East | X | X | X | X | X |
| 6 | | 1133360 | 01/13/15 09:51 | 01/13/15 11:09 | 78 | 552 | Southeast | X | X | X | | |
| 7 | | 1135118 | 01/15/15 11:58 | 01/15/15 15:32 | 84 | 2,306 | Metro West | X | X | X | X | X |
| 8 | | 1133947 | 01/16/15 23:39 | 01/17/15 01:17 | 83 | 2,609 | Metro West | X | X | X | | |
| 9 | | 1134855 | 01/22/15 08:13 | 01/22/15 09:27 | 74 | 3,381 | Metro East | X | X | X | X | X |
| 10 | | 1136762 | 01/28/15 14:57 | 01/28/15 18:16 | 199 | 1,978 | Metro West | X | X | X | X | |

**SECURITY DATA ENDS]**

**February**

## 2015 MN Feeder Level Outages

**7 total qualifying events** **0 events with no email**

**[SECURITY DATA BEGINS**

| | Feeder | Primary Event # | Begin Time | Completion Time | Duration Min. | Customers Out | Region | Email sent to CAO | Email 1 | Email 2 | Email 3 | Email 4 | Email 5 | Email 6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 1137151 | 02/03/15 10:00 | 02/03/15 11:24 | 84 | 1,463 | Metro East | X | X | X | X | | | |
| 2 | | 1137241 | 02/04/15 06:09 | 02/04/15 07:42 | 93 | 645 | Northwest | X | X | X | | | | |
| 3 | | 1137238 | 02/04/15 06:09 | 02/04/15 07:42 | 93 | 1,845 | Northwest | X | X | X | | | | |
| 4 | | 1137832 | 02/08/15 11:45 | 02/08/15 12:59 | 74 | 1,614 | Southeast | X | X | X | | | | |
| 5 | | 1138068 | 02/10/15 07:16 | 02/10/15 10:17 | 181 | 905 | Northwest | X | X | X | X | | | |
| 6 | | 1138271 | 02/10/15 17:51 | 02/10/15 21:43 | 232 | 1,090 | Southeast | X | X | X | X | X | | |
| 7 | | 1140949 | 02/24/15 18:29 | 02/25/15 04:12 | 583 | 6,637 | Metro West | X | X | X | X | X | X | X |

**SECURITY DATA ENDS]**

**March**

# 2015 MN Feeder Level Outages

**21 total qualifying events** **1 events with no email**

**[SECURITY DATA BEGINS**

| | Feeder | Primary Event # | Begin Time | Completion Time | Duration Min. | Customers Out | Region | Email sent to CAO | Email 1 | Email 2 | Email 3 | Email 4 | Email 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 1142977 | 03/10/15 06:35 | 03/10/15 08:03 | 88 | 795 | Metro East | X | X | X | X | | |
| 2 | | 1143805 | 03/15/15 18:02 | 03/15/15 20:57 | 175 | 1,845 | Metro West | X | X | X | X | X | |
| 3 | | 1143976 | 03/16/15 07:31 | 03/16/15 09:21 | 110 | 675 | Southeast | X | X | X | | | |
| 4 | | 1143974 | 03/16/15 07:31 | 03/16/15 09:21 | 110 | 1,569 | Southeast | X | X | X | | | |
| 5 | | 1143970 | 03/16/15 07:31 | 03/16/15 10:06 | 155 | 1,054 | Southeast | X | X | X | | | |
| 6 | | 1143978 | 03/16/15 07:31 | 03/16/15 10:06 | 155 | 1,940 | Southeast | X | X | X | | | |
| 7 | | 1144905 | 03/22/15 01:58 | 03/22/15 09:00 | 422 | 932 | Metro West | X | X | X | X | | |
| 8 | | 1145320 | 03/25/15 04:49 | 03/25/15 12:34 | 465 | 1,924 | Northwest | X | X | X | X | X | |
| 9 | | 1145344 | 03/25/15 06:08 | 03/25/15 07:28 | 80 | 1,948 | Metro East | X | X | X | | | |
| 10 | | 1145393 | 03/25/15 07:49 | 03/25/15 13:30 | 341 | 3,501 | Metro East | X | X | X | | | |
| 11 | | 1146031 | 03/25/15 08:09 | 03/25/15 13:18 | 309 | 1,246 | Metro West | X | X | X | X | | |
| 12 | | 1145450 | 03/25/15 08:32 | 03/25/15 09:45 | 73 | 1,038 | Metro East | | | | | | |
| 13 | | 1145605 | 03/25/15 10:52 | 03/25/15 12:08 | 76 | 1,278 | Metro East | X | X | X | | | |
| 14 | | 1145671 | 03/25/15 11:32 | 03/25/15 12:32 | 60 | 3,632 | Metro East | X | X | X | | | |
| 15 | | 1146686 | 03/29/15 04:46 | 03/29/15 12:54 | 488 | 1,179 | Northwest | X | X | X | X | X | X |
| 16 | | 1146722 | 03/29/15 06:32 | 03/29/15 12:22 | 350 | 2,563 | Metro East | X | X | X | X | | |
| 17 | | 1146728 | 03/29/15 06:38 | 03/29/15 08:57 | 139 | 1,571 | Southeast | X | X | X | X | | |
| 18 | | 1146899 | 03/29/15 13:10 | 03/29/15 14:33 | 83 | 1,098 | Metro West | X | X | X | | | |
| 19 | | 1147170 | 03/29/15 18:42 | 03/30/15 03:28 | 526 | 799 | Metro West | X | X | X | X | | |
| 20 | | 1147229 | 03/30/15 07:53 | 03/30/15 12:17 | 264 | 1,032 | Metro West | X | X | X | X | | |
| 21 | | 1147252 | 03/30/15 08:58 | 03/30/15 12:21 | 203 | 1,200 | Metro West | X | X | X | X | | |

**SECURITY DATA ENDS]**

**April**

# 2015 MN Feeder Level Outages

**34 total qualifying events** **1 events with no email**

**[SECURITY DATA BEGINS**

| | Feeder | Primary Event # | Begin Time | Completion Time | Duration Min. | Customers Out | Region | Email sent to CAO | Email 1 | Email 2 | Email 3 | Email 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 1148181 | 04/01/15 16:45 | 04/01/15 17:50 | 65 | 1,788 | Metro West | X | X | X | | |
| 2 | | 1148237 | 04/01/15 17:11 | 04/01/15 18:13 | 62 | 1,167 | Metro West | X | X | X | | |
| 3 | | 1148426 | 04/01/15 20:18 | 04/01/15 21:32 | 74 | 1,788 | Metro East | X | X | X | X | |
| 4 | | 1148131 | 04/01/15 20:26 | 04/02/15 04:50 | 504 | 892 | Metro East | | | | | |
| 5 | | 1148574 | 04/01/15 21:53 | 04/02/15 00:02 | 129 | 645 | Metro East | X | X | X | | |
| 6 | | 1148607 | 04/01/15 22:48 | 04/02/15 00:03 | 75 | 1,615 | Metro West | X | X | X | | |
| 7 | | 1148626 | 04/01/15 22:56 | 04/02/15 01:13 | 137 | 1,993 | Metro West | X | X | X | X | |
| 8 | | 1148131 | 04/02/15 00:20 | 04/02/15 04:50 | 270 | 892 | Metro East | X | X | X | | |
| 9 | | 1148733 | 04/02/15 01:56 | 04/02/15 03:37 | 101 | 1,797 | Metro East | X | X | X | X | |
| 10 | | 1149053 | 04/02/15 14:07 | 04/02/15 15:29 | 82 | 1,453 | Metro West | X | X | X | X | |
| 11 | | 1149839 | 04/03/15 16:24 | 04/03/15 18:45 | 141 | 1,306 | Northwest | X | X | X | | |
| 12 | | 1150136 | 04/06/15 09:53 | 04/06/15 14:12 | 259 | 642 | Metro West | X | X | X | X | |
| 13 | | 1150141 | 04/06/15 10:08 | 04/06/15 11:50 | 102 | 506 | Metro East | X | X | X | X | |
| 14 | | 1150270 | 04/06/15 15:32 | 04/06/15 17:10 | 98 | 1,919 | Southeast | X | X | X | | |
| 15 | | 1151873 | 04/13/15 07:19 | 04/13/15 11:10 | 231 | 657 | Southeast | X | X | X | X | X |
| 16 | | 1152306 | 04/14/15 14:16 | 04/14/15 20:18 | 362 | 646 | Metro West | X | X | X | X | |
| 17 | | 1153243 | 04/19/15 01:00 | 04/19/15 06:53 | 353 | 692 | Metro West | X | X | X | X | |
| 18 | | 1153248 | 04/19/15 01:18 | 04/19/15 03:50 | 152 | 2,092 | Metro West | X | X | X | | |
| 19 | | 1153263 | 04/19/15 01:18 | 04/19/15 03:50 | 152 | 1,203 | Metro West | X | X | X | | |
| 20 | | 1153245 | 04/19/15 01:18 | 04/19/15 02:31 | 73 | 1,034 | Southeast | X | X | X | | |
| 21 | | 1153247 | 04/19/15 01:18 | 04/19/15 02:31 | 73 | 892 | Southeast | X | X | X | | |
| 22 | | 1153244 | 04/19/15 01:18 | 04/19/15 02:31 | 73 | 1,291 | Southeast | X | X | X | | |
| 23 | | 1153348 | 04/19/15 05:58 | 04/19/15 07:46 | 108 | 695 | Northwest | X | X | X | X | |
| 24 | | 1153379 | 04/19/15 07:51 | 04/19/15 09:42 | 111 | 677 | Southeast | X | X | X | | |
| 25 | | 1153380 | 04/19/15 07:51 | 04/19/15 09:42 | 111 | 1,574 | Southeast | X | X | X | | |
| 26 | | 1153868 | 04/20/15 14:56 | 04/20/15 15:56 | 60 | 1,433 | Metro West | X | X | X | X | |
| 27 | | 1154123 | 04/21/15 14:05 | 04/21/15 15:20 | 75 | 895 | Metro East | X | X | X | X | |
| 28 | | 1154301 | 04/22/15 12:17 | 04/22/15 14:32 | 135 | 1,862 | Metro East | X | X | X | X | |
| 29 | | 1154294 | 04/22/15 12:17 | 04/22/15 15:51 | 214 | 1,563 | Metro West | X | X | X | X | |
| 30 | | 1154308 | 04/22/15 12:17 | 04/22/15 15:17 | 180 | 2,007 | Metro East | X | X | X | X | |
| 31 | | 1154295 | 04/22/15 12:17 | 04/22/15 15:13 | 176 | 1,564 | Metro East | X | X | X | X | |
| 32 | | 1154309 | 04/22/15 12:17 | 04/22/15 15:30 | 193 | 2,033 | Metro East | X | X | X | X | |
| 33 | | 1155873 | 04/22/15 12:17 | 04/22/15 15:18 | 181 | 1,555 | Metro East | X | X | X | X | |
| 34 | | 1156818 | 04/25/15 07:31 | 04/25/15 11:20 | 229 | 2,017 | Metro West | X | X | X | X | |

**SECURITY DATA ENDS]**

**May**

## 2015 MN Feeder Level Outages

**19 total qualifying events** **0 events with no email**

**[SECURITY DATA BEGINS**

| | Feeder | Primary Event # | Begin Time | Completion Time | Duration Min. | Customers Out | Region | Email sent to CAO | Email 1 | Email 2 | Email 3 | Email 4 | Email 5 | Email 6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 1157083 | 05/02/15 15:28 | 05/02/15 16:39 | 71 | 1,631 | Metro East | X | X | X | X | | | |
| 2 | | 1157096 | 05/02/15 17:08 | 05/02/15 18:09 | 61 | 1,139 | Metro West | X | X | X | | | | |
| 3 | | 1157098 | 05/02/15 17:08 | 05/02/15 18:10 | 62 | 1,601 | Metro West | X | X | X | | | | |
| 4 | | 1158050 | 05/05/15 00:34 | 05/05/15 02:09 | 95 | 568 | Metro East | X | X | X | | | | |
| 5 | | 1158070 | 05/05/15 01:34 | 05/05/15 03:01 | 87 | 523 | Metro East | X | X | X | | | | |
| 6 | | 1158554 | 05/06/15 17:47 | 05/06/15 20:50 | 183 | 604 | Metro West | X | X | X | X | | | |
| 7 | | 1159178 | 05/07/15 17:52 | 05/07/15 19:11 | 79 | 2,335 | Metro East | X | X | X | | | | |
| 8 | | 1160209 | 05/10/15 23:09 | 05/11/15 00:21 | 72 | 2,539 | Metro West | X | X | X | X | | | |
| 9 | | 1160262 | 05/10/15 23:42 | 05/11/15 01:04 | 82 | 1,351 | Metro East | X | X | X | | | | |
| 10 | | 1162450 | 05/17/15 20:51 | 05/18/15 02:40 | 349 | 3,235 | Metro East | X | X | X | X | X | | |
| 11 | | 1162711 | 05/17/15 22:41 | 05/17/15 23:44 | 63 | 2,672 | Metro West | X | X | X | | | | |
| 12 | | 1163092 | 05/18/15 09:07 | 05/18/15 10:13 | 66 | 1,804 | Metro East | X | X | X | | | | |
| 13 | | 1165487 | 05/26/15 14:50 | 05/26/15 16:15 | 85 | 1,278 | Metro West | X | X | X | X | X | | |
| 14 | | 1165827 | 05/27/15 14:48 | 05/27/15 18:02 | 194 | 1,874 | Metro West | X | X | X | X | | | |
| 15 | | 1165841 | 05/27/15 14:48 | 05/27/15 19:52 | 304 | 2,537 | Metro West | X | X | X | X | X | X | X |
| 16 | | 1166076 | 05/27/15 20:25 | 05/27/15 22:30 | 125 | 3,493 | Metro West | X | X | X | | | | |
| 17 | | 1166235 | 05/27/15 22:04 | 05/28/15 00:00 | 116 | 2,377 | Metro East | X | X | X | | | | |
| 18 | | 1166792 | 05/29/15 04:22 | 05/29/15 05:22 | 60 | 2,909 | Metro West | X | X | X | X | | | |
| 19 | | 1166882 | 05/29/15 07:12 | 05/29/15 08:14 | 62 | 3,495 | Metro West | X | X | X | | | | |

**SECURITY DATA ENDS]**

**June**

# 2015 MN Feeder Level Outages

**24 total qualifying events** **0 events with no email**

**[SECURITY DATA BEGINS**

| | Feeder | Primary Event # | Begin Time | Completion Time | Duration Min. | Customers Out | Region | Email sent to CAO | Email 1 | Email 2 | Email 3 | Email 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 1169407 | 06/05/15 15:42 | 06/05/15 16:44 | 62 | 1,551 | Metro West | X | X | X | | |
| 2 | | 1170525 | 06/06/15 02:37 | 06/06/15 04:43 | 126 | 1,629 | Southeast | X | X | X | | |
| 3 | | 1169503 | 06/06/15 03:19 | 06/06/15 04:40 | 81 | 1,947 | Metro East | X | X | X | X | |
| 4 | | 1169561 | 06/06/15 10:34 | 06/06/15 11:51 | 77 | 599 | Metro West | X | X | X | X | X |
| 5 | | 1170881 | 06/09/15 17:06 | 06/09/15 19:10 | 124 | 3,038 | Metro East | X | X | X | X | |
| 6 | | 1171018 | 06/09/15 19:13 | 06/09/15 20:54 | 101 | 1,789 | Metro West | X | X | X | X | |
| 7 | | 1171072 | 06/09/15 19:57 | 06/09/15 21:11 | 74 | 2,641 | Metro East | X | X | X | | |
| 8 | | 1171071 | 06/09/15 19:57 | 06/09/15 21:11 | 74 | 2,496 | Metro East | X | X | X | | |
| 9 | | 1171416 | 06/10/15 13:20 | 06/10/15 14:55 | 95 | 1,455 | Metro West | X | X | X | | |
| 10 | | 1173056 | 06/14/15 09:38 | 06/14/15 11:17 | 99 | 1,134 | Metro West | X | X | X | X | |
| 11 | | 1173058 | 06/14/15 09:38 | 06/14/15 12:07 | 149 | 1,596 | Metro West | X | X | X | X | |
| 12 | | 1174314 | 06/17/15 23:31 | 06/18/15 02:39 | 188 | 2,799 | Metro West | X | X | X | X | |
| 13 | | 1175483 | 06/21/15 20:57 | 06/21/15 23:58 | 181 | 1,257 | Metro West | X | X | X | X | X |
| 14 | | 1175624 | 06/22/15 04:59 | 06/22/15 06:08 | 69 | 2,150 | Metro West | X | X | X | X | |
| 15 | | 1175934 | 06/22/15 08:19 | 06/22/15 11:42 | 203 | 1,014 | Southeast | X | X | | | |
| 16 | | 1176209 | 06/22/15 09:20 | 06/22/15 12:05 | 165 | 961 | Metro East | X | X | X | | |
| 17 | | 1176641 | 06/22/15 12:33 | 06/22/15 13:55 | 82 | 2,339 | Metro East | X | X | X | | |
| 18 | | 1178379 | 06/25/15 17:24 | 06/25/15 19:21 | 117 | 1,390 | Metro East | X | X | X | X | X |
| 19 | | 1178823 | 06/27/15 08:47 | 06/27/15 10:25 | 98 | 857 | Metro East | X | X | X | | |
| 20 | | 1179353 | 06/28/15 13:38 | 06/28/15 15:19 | 101 | 2,003 | Metro West | X | X | X | | |
| 21 | | 1179438 | 06/28/15 16:08 | 06/28/15 17:37 | 89 | 1,895 | Metro West | X | X | X | | |
| 22 | | 1179741 | 06/29/15 07:07 | 06/29/15 09:21 | 134 | 1,186 | Metro West | X | X | X | | |
| 23 | | 1179742 | 06/29/15 07:07 | 06/29/15 08:54 | 107 | 1,037 | Metro West | X | X | X | | |
| 24 | | 1180292 | 06/30/15 05:39 | 06/30/15 07:02 | 83 | 2,310 | Metro East | X | X | X | | |

**SECURITY DATA ENDS]**

**July**

# 2015 MN Feeder Level Outages

**79 total qualifying events** **22 events with no email**

**[SECURITY DATA BEGINS**

| | Feeder | Primary Event # | Begin Time | Completion Time | Duration Min. | Customers Out | Region | Email sent to CAO | Email 1 | Email 2 | Email 3 | Email 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 1180849 | 07/01/15 12:24 | 07/01/15 14:06 | 102 | 654 | Metro East | X | | X | | |
| 2 | | 1182011 | 07/05/15 23:32 | 07/06/15 01:37 | 125 | 3,245 | Northwest | X | X | X | X | X |
| 3 | | 1182076 | 07/06/15 02:52 | 07/06/15 04:27 | 95 | 2,497 | Metro East | X | X | X | X | |
| 4 | | 1182098 | 07/06/15 03:18 | 07/06/15 05:17 | 119 | 698 | Metro West | X | X | X | | |
| 5 | | 1182640 | 07/06/15 11:59 | 07/06/15 13:13 | 74 | 1,192 | Metro West | X | X | X | | |
| 6 | | 1202104 | 07/12/15 16:52 | 07/13/15 04:00 | 668 | 2,049 | Metro East | X | X | X | X | X |
| 7 | | 1185195 | 07/12/15 20:40 | 07/12/15 22:51 | 131 | 3,247 | Northwest | X | X | X | | |
| 8 | | 1185503 | 07/12/15 23:37 | 07/13/15 01:26 | 109 | 2,361 | Metro East | X | X | X | | |
| 9 | | 1233277 | 07/13/15 02:46 | 07/13/15 03:48 | 62 | 935 | Metro East | X | X | X | X | |
| 10 | | 1186857 | 07/13/15 17:35 | 07/13/15 20:13 | 158 | 2,299 | Metro West | X | X | X | X | |
| 11 | | 1186998 | 07/13/15 18:31 | 07/13/15 20:08 | 97 | 900 | Metro West | X | X | X | X | |
| 12 | | 1187039 | 07/13/15 19:28 | 07/13/15 20:44 | 76 | 2,480 | Northwest | X | X | X | | |
| 13 | | 1187807 | 07/15/15 18:18 | 07/15/15 19:24 | 66 | 1,456 | Metro East | X | X | X | | |
| 14 | | 1215149 | 07/17/15 23:59 | 07/18/15 04:06 | 247 | 1,224 | Metro West | | | | | |
| 15 | | 1215150 | 07/17/15 23:59 | 07/18/15 04:06 | 247 | 693 | Metro West | | | | | |
| 16 | | 1188710 | 07/18/15 00:00 | 07/18/15 11:04 | 664 | 1,365 | Metro West | | | | | |
| 17 | | 1188715 | 07/18/15 00:00 | 07/18/15 08:51 | 531 | 1,178 | Metro West | | | | | |
| 18 | | 1188860 | 07/18/15 00:27 | 07/18/15 10:01 | 574 | 1,311 | Metro West | X | X | X | | |
| 19 | | 1188889 | 07/18/15 00:31 | 07/18/15 09:37 | 546 | 1,897 | Metro West | X | X | X | | |
| 20 | | 1188972 | 07/18/15 00:37 | 07/18/15 13:17 | 760 | 651 | Metro West | X | X | X | | |
| 21 | | 1188964 | 07/18/15 00:38 | 07/18/15 11:41 | 663 | 695 | Metro West | X | X | X | | |
| 22 | | 1188985 | 07/18/15 00:39 | 07/18/15 11:06 | 627 | 1,316 | Metro West | X | X | X | | |
| 23 | | 1188981 | 07/18/15 00:39 | 07/18/15 09:07 | 508 | 1,434 | Metro West | X | X | X | | |
| 24 | | 1189058 | 07/18/15 00:44 | 07/18/15 12:10 | 686 | 612 | Metro West | X | X | X | | |
| 25 | | 1189064 | 07/18/15 00:45 | 07/18/15 02:51 | 126 | 1,375 | Metro East | X | X | X | | |
| 26 | | 1189065 | 07/18/15 00:46 | 07/18/15 10:05 | 559 | 2,696 | Metro West | X | X | X | | |
| 27 | | 1189134 | 07/18/15 00:49 | 07/18/15 12:50 | 721 | 1,563 | Metro West | X | X | X | | |
| 28 | | 1189195 | 07/18/15 00:53 | 07/18/15 10:12 | 559 | 938 | Metro East | X | X | X | | |
| 29 | | 1189256 | 07/18/15 00:54 | 07/18/15 07:36 | 402 | 1,712 | Metro East | X | X | X | | |
| 30 | | 1189278 | 07/18/15 00:57 | 07/18/15 09:52 | 535 | 1,985 | Metro West | X | X | X | | |
| 31 | | 1189472 | 07/18/15 00:58 | 07/18/15 03:35 | 157 | 752 | Metro East | X | X | X | X | |
| 32 | | 1189306 | 07/18/15 00:59 | 07/18/15 12:21 | 682 | 1,549 | Metro East | | | | | |

**SECURITY DATA ENDS]**

**July**

# 2015 MN Feeder Level Outages

**[SECURITY DATA BEGINS**

| | Feeder | Primary Event # | Begin Time | Completion Time | Duration Min. | Customers Out | Region | Email sent to CAO | Email 1 | Email 2 | Email 3 | Email 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 33 | | 1189294 | 07/18/15 00:59 | 07/18/15 06:17 | 318 | 2,792 | Metro East | | | | | |
| 34 | | 1189543 | 07/18/15 01:02 | 07/19/15 13:27 | 2,185 | 1,373 | Metro East | | | | | |
| 35 | | 1189419 | 07/18/15 01:02 | 07/18/15 08:41 | 459 | 1,070 | Metro East | | | | | |
| 36 | | 1215258 | 07/18/15 01:03 | 07/20/15 15:00 | 3,717 | 1,553 | Metro East | | | | | |
| 37 | | 1189465 | 07/18/15 01:05 | 07/18/15 05:55 | 290 | 2,737 | Metro East | X | X | X | | |
| 38 | | 1189614 | 07/18/15 01:06 | 07/18/15 11:12 | 606 | 1,679 | Metro West | X | X | X | | |
| 39 | | 1189565 | 07/18/15 01:06 | 07/18/15 09:05 | 479 | 2,052 | Metro West | X | X | X | | |
| 40 | | 1189506 | 07/18/15 01:07 | 07/18/15 11:24 | 617 | 1,199 | Metro West | X | X | X | | |
| 41 | | 1218435 | 07/18/15 01:08 | 07/18/15 07:46 | 398 | 3,016 | Metro East | | | | | |
| 42 | | 1218414 | 07/18/15 01:08 | 07/18/15 06:37 | 329 | 2,364 | Metro East | | | | | |
| 43 | | 1189855 | 07/18/15 01:09 | 07/18/15 16:35 | 926 | 540 | Metro West | X | X | X | | |
| 44 | | 1189712 | 07/18/15 01:09 | 07/18/15 10:59 | 590 | 1,274 | Metro West | X | X | X | | |
| 45 | | 1189678 | 07/18/15 01:09 | 07/18/15 10:15 | 546 | 610 | Metro West | X | X | X | | |
| 46 | | 1189851 | 07/18/15 01:11 | 07/18/15 08:38 | 447 | 1,887 | Metro East | | | | | |
| 47 | | 1189755 | 07/18/15 01:11 | 07/18/15 08:51 | 460 | 2,315 | Metro West | X | X | X | | |
| 48 | | 1189496 | 07/18/15 01:12 | 07/18/15 11:44 | 632 | 986 | Metro West | X | X | X | | |
| 49 | | 1189979 | 07/18/15 01:13 | 07/18/15 13:20 | 727 | 1,332 | Metro West | X | X | X | | |
| 50 | | 1191463 | 07/18/15 01:15 | 07/18/15 19:56 | 1,121 | 1,457 | Metro West | X | | X | | |
| 51 | | 1190223 | 07/18/15 01:17 | 07/18/15 11:04 | 587 | 2,046 | Metro West | X | X | X | | |
| 52 | | 1212311 | 07/18/15 01:17 | 07/18/15 09:10 | 473 | 773 | Metro East | | | | | |
| 53 | | 1190133 | 07/18/15 01:17 | 07/18/15 10:43 | 566 | 2,372 | Metro West | X | X | X | | |
| 54 | | 1190229 | 07/18/15 01:17 | 07/18/15 10:41 | 564 | 2,395 | Metro West | X | X | X | | |
| 55 | | 1190259 | 07/18/15 01:18 | 07/18/15 04:45 | 207 | 5,991 | Metro East | | | | | |
| 56 | | 1190456 | 07/18/15 01:19 | 07/19/15 08:14 | 1,855 | 1,398 | Metro West | X | X | X | | |
| 57 | | 1190487 | 07/18/15 01:20 | 07/18/15 09:27 | 487 | 3,180 | Metro West | X | X | X | | |
| 58 | | 1190495 | 07/18/15 01:22 | 07/18/15 09:57 | 515 | 2,042 | Metro West | X | X | X | | |
| 59 | | 1190524 | 07/18/15 01:23 | 07/18/15 10:37 | 554 | 769 | Metro West | X | X | X | | |
| 60 | | 1190493 | 07/18/15 01:25 | 07/18/15 03:50 | 145 | 974 | Southeast | X | X | X | | |
| 61 | | 1190556 | 07/18/15 01:26 | 07/18/15 11:47 | 621 | 1,287 | Metro West | X | X | X | | |
| 62 | | 1190535 | 07/18/15 01:28 | 07/18/15 08:02 | 394 | 1,451 | Metro East | X | X | X | | |
| 63 | | 1190564 | 07/18/15 01:28 | 07/18/15 06:22 | 294 | 576 | Southeast | | | | | |
| 64 | | 1206076 | 07/18/15 01:29 | 07/18/15 06:17 | 288 | 3,183 | Metro East | X | X | X | | |

**SECURITY DATA ENDS]**

**July**

# 2015 MN Feeder Level Outages

**[SECURITY DATA BEGINS**

| | Feeder | Primary Event # | Begin Time | Completion Time | Duration Min. | Customers Out | Region | Email sent to CAO | Email 1 | Email 2 | Email 3 | Email 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 65 | | 1191086 | 07/18/15 01:34 | 07/18/15 15:09 | 815 | 688 | Metro West | | | | | |
| 66 | | 1190694 | 07/18/15 01:51 | 07/18/15 15:11 | 800 | 3,225 | Metro West | | | | | |
| 67 | | 1191012 | 07/18/15 02:20 | 07/18/15 11:54 | 574 | 941 | Metro West | | | | | |
| 68 | | 1215131 | 07/18/15 02:20 | 07/18/15 11:54 | 574 | 1,627 | Metro West | | | | | |
| 69 | | 1215133 | 07/18/15 02:20 | 07/18/15 11:54 | 574 | 1,844 | Metro West | | | | | |
| 70 | | 1233208 | 07/18/15 04:56 | 07/18/15 17:45 | 769 | 780 | Metro West | | | | | |
| 71 | | 1193104 | 07/18/15 06:45 | 07/18/15 11:07 | 262 | 2,675 | Metro West | X | X | X | | |
| 72 | | 1194363 | 07/18/15 12:38 | 07/18/15 14:00 | 81 | 1,897 | Metro West | | | | | |
| 73 | | 1197274 | 07/18/15 18:33 | 07/18/15 20:29 | 116 | 1,984 | Metro West | X | X | X | | |
| 74 | | 1200345 | 07/21/15 00:48 | 07/21/15 01:52 | 64 | 1,456 | Metro East | X | X | X | X | |
| 75 | | 1201774 | 07/24/15 02:39 | 07/24/15 04:19 | 100 | 1,188 | Metro West | X | X | X | | |
| 76 | | 1201909 | 07/24/15 07:33 | 07/24/15 09:56 | 143 | 928 | Metro East | X | X | X | | |
| 77 | | 1202987 | 07/27/15 09:00 | 07/27/15 10:02 | 62 | 643 | Metro West | X | X | X | | |
| 78 | | 1203623 | 07/28/15 09:05 | 07/28/15 10:24 | 79 | 1,393 | Metro East | X | X | X | X | |
| 79 | | 1228112 | 07/28/15 19:25 | 07/28/15 20:52 | 87 | 813 | Metro West | X | X | | | |

**SECURITY DATA ENDS]**

**August**

# 2015 MN Feeder Level Outages

**24 total qualifying events** **1 events with no email**

**[SECURITY DATA BEGINS**

| | Feeder | Primary Event # | Begin Time | Completion Time | Duration Min. | Customers Out | Region | Email sent to CAO | Email 1 | Email 2 | Email 3 | Email 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 1206570 | 08/01/15 01:04 | 08/01/15 02:11 | 67 | 2,212 | Metro East | X | X | X | | |
| 2 | | 1207033 | 08/02/15 03:08 | 08/02/15 05:48 | 160 | 2,387 | Metro East | X | X | X | | |
| 3 | | 1207048 | 08/02/15 04:33 | 08/02/15 05:48 | 75 | 2,065 | Metro East | X | X | X | | |
| 4 | | 1207399 | 08/03/15 00:19 | 08/03/15 01:19 | 60 | 1,455 | Metro East | X | X | X | | |
| 5 | | 1208116 | 08/04/15 08:47 | 08/04/15 09:59 | 72 | 2,363 | Metro West | X | X | X | | |
| 6 | | 1208121 | 08/04/15 08:47 | 08/04/15 10:02 | 75 | 1,094 | Metro West | X | X | X | | |
| 7 | | 1209944 | 08/09/15 04:03 | 08/09/15 05:59 | 116 | 710 | Metro West | X | X | X | X | |
| 8 | | 1209948 | 08/09/15 04:03 | 08/09/15 05:59 | 116 | 1,103 | Metro West | X | X | X | X | |
| 9 | | 1212020 | 08/12/15 14:22 | 08/12/15 15:26 | 64 | 1,490 | Metro West | X | X | X | | |
| 10 | | 1212166 | 08/12/15 20:33 | 08/12/15 21:41 | 68 | 3,377 | Metro West | X | X | X | X | |
| 11 | | 1212958 | 08/14/15 22:47 | 08/14/15 23:55 | 68 | 1,630 | Metro West | X | X | X | | |
| 12 | | 1213330 | 08/16/15 07:34 | 08/16/15 08:42 | 68 | 627 | Metro East | X | X | X | | |
| 13 | | 1213574 | 08/16/15 22:42 | 08/17/15 04:42 | 360 | 4,026 | Metro East | X | X | X | X | X |
| 14 | | 1214038 | 08/18/15 04:18 | 08/18/15 05:20 | 62 | 2,132 | Metro East | X | X | X | | |
| 15 | | 1214109 | 08/18/15 09:31 | 08/18/15 10:35 | 64 | 1,076 | Metro West | X | X | X | | |
| 16 | | 1229805 | 08/22/15 11:53 | 08/22/15 17:20 | 327 | 1,553 | Metro East | X | X | X | X | |
| 17 | | 1215839 | 08/22/15 12:26 | 08/22/15 13:55 | 89 | 1,388 | Metro East | X | X | X | | |
| 18 | | 1215997 | 08/22/15 14:26 | 08/22/15 15:50 | 84 | 882 | Northwest | X | X | X | | |
| 19 | | 1216120 | 08/22/15 14:59 | 08/22/15 17:15 | 136 | 952 | Metro East | X | X | X | | |
| 20 | | 1229017 | 08/22/15 20:53 | 08/23/15 02:40 | 347 | 2,046 | Metro East | X | X | X | X | X |
| 21 | | 1216798 | 08/22/15 21:52 | 08/23/15 01:12 | 200 | 884 | Southeast | X | X | X | | |
| 22 | | 1216958 | 08/23/15 08:02 | 08/23/15 09:18 | 76 | 2,038 | Metro East | X | X | X | | |
| 23 | | 1218553 | 08/27/15 10:31 | 08/27/15 15:22 | 291 | 584 | Metro East | | | | | |
| 24 | | 1218853 | 08/28/15 00:29 | 08/28/15 02:12 | 103 | 852 | Northwest | X | X | X | | |

**SECURITY DATA ENDS]**

**September**

# 2015 MN Feeder Level Outages

**8 total qualifying events** **0 events with no email**

**[SECURITY DATA BEGINS**

| | Feeder | Primary Event # | Begin Time | Completion Time | Duration Min. | Customers Out | Region | Email sent to CAO | Email 1 | Email 2 | Email 3 | Email 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 1220021 | 09/01/15 15:45 | 09/01/15 18:39 | 174 | 1,692 | Metro East | X | X | X | X | X |
| 2 | | 1230456 | 09/02/15 16:32 | 09/02/15 18:16 | 104 | 2,259 | Metro East | X | X | X | X | X |
| 3 | | 1221022 | 09/04/15 13:03 | 09/04/15 14:49 | 106 | 618 | Southeast | X | X | X | X | |
| 4 | | 1221669 | 09/06/15 14:19 | 09/06/15 15:39 | 80 | 2,066 | Metro East | X | X | X | | |
| 5 | | 1222271 | 09/08/15 11:56 | 09/08/15 13:06 | 70 | 2,382 | Metro East | X | X | X | | |
| 6 | | 1223328 | 09/11/15 14:19 | 09/11/15 15:28 | 69 | 2,012 | Metro West | X | X | X | X | |
| 7 | | 1225786 | 09/18/15 08:42 | 09/18/15 11:04 | 142 | 2,052 | Metro West | X | X | X | X | |
| 8 | | 1228067 | 09/27/15 21:44 | 09/27/15 23:20 | 96 | 1,402 | Metro West | X | X | X | X | |

**SECURITY DATA ENDS]**

**October**

## 2015 MN Feeder Level Outages

**7 total qualifying events** **0 events with no email**

**[SECURITY DATA BEGINS**

| | Feeder | Primary Event # | Begin Time | Completion Time | Duration Min. | Customers Out | Region | Email sent to CAO | Email 1 | Email 2 | Email 3 | Email 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 1230206 | 10/06/15 20:13 | 10/06/15 21:27 | 74 | 1,977 | Metro East | X | X | X | X | |
| 2 | | 1230288 | 10/07/15 01:59 | 10/07/15 04:48 | 169 | 1,014 | Southeast | X | X | X | X | |
| 3 | | 1231373 | 10/10/15 07:24 | 10/10/15 09:13 | 109 | 1,226 | Southeast | X | X | X | X | X |
| 4 | | 1232815 | 10/14/15 14:24 | 10/14/15 15:28 | 64 | 1,262 | Metro West | X | X | X | | |
| 5 | | 1235040 | 10/22/15 09:34 | 10/22/15 11:08 | 94 | 1,239 | Metro West | X | X | X | X | |
| 6 | | 1235901 | 10/25/15 04:27 | 10/25/15 05:38 | 71 | 640 | Metro West | X | X | X | | |
| 7 | | 1236680 | 10/29/15 00:57 | 10/29/15 02:45 | 108 | 1,657 | Metro West | X | X | X | | |

**SECURITY DATA ENDS]**

**November**

# 2015 MN Feeder Level Outages

**20 total qualifying events** **1 events with no email**

**[SECURITY DATA BEGINS**

| | Feeder | Primary Event # | Begin Time | Completion Time | Duration Min. | Customers Out | Region | Email sent to CAO | Email 1 | Email 2 | Email 3 | Email 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 1237345 | 11/02/15 00:05 | 11/02/15 03:14 | 189 | 1,106 | Metro West | X | X | X | X | X |
| 2 | | 1237588 | 11/03/15 02:59 | 11/03/15 04:02 | 63 | 2,042 | Metro East | X | X | X | | |
| 3 | | 1237592 | 11/03/15 02:59 | 11/03/15 04:02 | 63 | 1,554 | Metro East | X | X | X | | |
| 4 | | 1238383 | 11/05/15 14:56 | 11/05/15 16:28 | 92 | 1,901 | Metro East | X | X | X | X | |
| 5 | | 1238544 | 11/06/15 00:04 | 11/06/15 01:20 | 76 | 1,554 | Metro West | X | X | | | |
| 6 | | 1238545 | 11/06/15 00:04 | 11/06/15 01:08 | 64 | 1,941 | Metro West | X | X | | | |
| 7 | | 1238541 | 11/06/15 00:04 | 11/06/15 01:18 | 74 | 1,662 | Metro West | X | X | | | |
| 8 | | 1238549 | 11/06/15 00:04 | 11/06/15 01:17 | 73 | 974 | Metro West | X | X | | | |
| 9 | | 1238537 | 11/06/15 00:05 | 11/06/15 02:23 | 138 | 1,854 | Metro East | X | X | X | X | X |
| 10 | | 1239905 | 11/11/15 18:39 | 11/11/15 23:10 | 271 | 627 | Southeast | X | X | X | X | X |
| 11 | | 1240017 | 11/12/15 03:32 | 11/12/15 04:45 | 73 | 1,616 | Metro West | X | X | X | | |
| 12 | | 1240736 | 11/14/15 14:48 | 11/14/15 15:51 | 63 | 2,683 | Metro West | X | X | X | | |
| 13 | | 1241843 | 11/17/15 11:17 | 11/17/15 13:46 | 149 | 1,307 | Metro West | X | X | X | X | X |
| 14 | | 1242540 | 11/19/15 00:55 | 11/19/15 02:27 | 92 | 1,375 | Metro West | X | X | X | | |
| 15 | | 1242785 | 11/19/15 08:16 | 11/19/15 10:00 | 104 | 1,261 | Metro West | X | X | X | X | |
| 16 | | 1242984 | 11/19/15 11:14 | 11/19/15 20:27 | 553 | 2,320 | Metro East | | | | | |
| 17 | | 1245639 | 11/28/15 10:07 | 11/28/15 11:44 | 97 | 2,379 | Southeast | X | X | X | X | |
| 18 | | 1245804 | 11/28/15 20:38 | 11/28/15 21:38 | 60 | 724 | Northwest | X | X | X | | |
| 19 | | 1246191 | 11/30/15 07:29 | 11/30/15 10:04 | 155 | 1,106 | Metro West | X | X | X | X | |
| 20 | | 1246300 | 11/30/15 18:13 | 11/30/15 19:25 | 72 | 2,088 | Metro West | | | | | |

**SECURITY DATA ENDS]**

**December**

## 2015 MN Feeder Level Outages

**6 total qualifying events** **1 events with no email**

**[SECURITY DATA BEGINS**

| | Feeder | Primary Event # | Begin Time | Completion Time | Duration Min. | Customers Out | Region | Email sent to CAO | Email 1 | Email 2 | Email 3 | Email 4 | Email 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 1249436 | 12/05/15 14:24 | 12/05/15 15:42 | 78 | 2,235 | Metro East | X | X | X | X | X | |
| 2 | | 1249718 | 12/17/15 00:36 | 12/17/15 02:52 | 136 | 2,571 | Metro East | X | X | X | X | X | X |
| 3 | | 1250118 | 12/21/15 15:07 | 12/21/15 16:32 | 85 | 1,013 | Southeast | X | X | X | X | | |
| 4 | | 1250526 | 12/23/15 09:04 | 12/23/15 10:40 | 96 | 1,875 | Metro East | X | X | X | | | |
| 5 | | 1250512 | 12/23/15 09:04 | 12/23/15 10:37 | 93 | 3,324 | Metro East | | | | | | |
| 6 | | 1251033 | 12/26/15 02:13 | 12/26/15 04:15 | 122 | 591 | Metro East | X | X | X | X | | |

**SECURITY DATA ENDS]**

## Attachment D – Major Service Interruption Notification

The emails associated with this attachment have been e-filed separately due to the attachment's voluminous nature.

| | | | | | All levels, All Causes included | | | All Causes, Distribution Substation, Transmission Substation, and Transmission Line levels | | | All levels, No "Planned" Cause Includes Bulk Power Supply | | | All levels, "Planned" Cause only Includes Bulk Power Supply | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Metro East** | | | | | **Total** | | | **Bulk Power Supply** | | | **Unplanned** | | | **Planned** | | |
| | Feeder ID | SAIFI | SAIDI | CAIDI | Outages | Customers Affected | Customer Mins Out | Outages | Customers Affected | Customer Mins Out | Outages | Customers Affected | Customer Mins Out | Outages | Customers Affected | Customer Mins Out |
| | ***[Security Data Begins*** | | | | | | | | | | | | | | | |
| 1 | | 1.79 | 483.87 | 269.76 | 17 | 4,400 | 1,186,928 | 0 | 0 | 0 | 12 | 4,299 | 1,173,132 | 5 | 101 | 13,796 |
| 2 | | 1.47 | 395.00 | 268.27 | 23 | 2,746 | 736,679 | 0 | 0 | 0 | 14 | 2,451 | 643,724 | 9 | 295 | 92,955 |
| 3 | | 1.22 | 394.99 | 324.54 | 32 | 4,906 | 1,592,188 | 0 | 0 | 0 | 28 | 4,888 | 1,590,663 | 4 | 18 | 1,525 |
| 4 | | 2.82 | 338.16 | 119.71 | 39 | 4,356 | 521,438 | 0 | 0 | 0 | 30 | 3,940 | 482,545 | 9 | 416 | 38,893 |
| 5 | | 2.36 | 333.96 | 141.68 | 15 | 4,804 | 680,620 | 1 | 2,051 | 395,843 | 14 | 4,687 | 652,895 | 1 | 117 | 27,725 |
| 6 | | 2.39 | 322.29 | 134.59 | 35 | 5,546 | 746,435 | 0 | 0 | 0 | 28 | 5,376 | 736,846 | 7 | 170 | 9,589 |
| 7 | | 5.00 | 305.81 | 61.21 | 5 | 7,279 | 445,568 | 0 | 0 | 0 | 5 | 7,279 | 445,568 | 0 | 0 | 0 |
| 8 | | 2.26 | 305.46 | 135.14 | 7 | 981 | 132,571 | 2 | 867 | 124,377 | 7 | 981 | 132,571 | 0 | 0 | 0 |
| 9 | | 2.16 | 295.00 | 136.54 | 23 | 3,997 | 545,755 | 2 | 3,706 | 505,851 | 18 | 3,958 | 543,437 | 5 | 39 | 2,318 |
| 10 | | 2.27 | 283.63 | 124.81 | 12 | 3,520 | 439,346 | 1 | 1,549 | 280,369 | 12 | 3,520 | 439,346 | 0 | 0 | 0 |
| 11 | | 1.18 | 283.57 | 239.57 | 9 | 696 | 166,738 | 0 | 0 | 0 | 7 | 669 | 162,536 | 2 | 27 | 4,202 |
| 12 | | 0.46 | 270.16 | 582.93 | 14 | 558 | 325,273 | 0 | 0 | 0 | 13 | 452 | 324,057 | 1 | 106 | 1,216 |
| 13 | | 2.22 | 252.08 | 113.37 | 21 | 4,247 | 481,478 | 0 | 0 | 0 | 18 | 4,235 | 480,266 | 3 | 12 | 1,212 |
| 14 | | 0.92 | 240.97 | 262.03 | 29 | 1,545 | 404,831 | 0 | 0 | 0 | 20 | 1,416 | 385,273 | 9 | 129 | 19,558 |
| 15 | | 0.93 | 239.05 | 257.14 | 9 | 555 | 142,715 | 0 | 0 | 0 | 8 | 539 | 141,179 | 1 | 16 | 1,536 |
| 16 | | 1.15 | 237.42 | 207.17 | 5 | 416 | 86,184 | 1 | 365 | 65,700 | 5 | 416 | 86,184 | 0 | 0 | 0 |
| 17 | | 2.38 | 234.58 | 98.73 | 15 | 3,286 | 324,424 | 0 | 0 | 0 | 11 | 3,223 | 318,969 | 4 | 63 | 5,455 |
| 18 | | 1.98 | 229.68 | 116.14 | 103 | 6,085 | 706,728 | 0 | 0 | 0 | 95 | 5,732 | 682,008 | 8 | 353 | 24,720 |
| 19 | | 1.09 | 229.60 | 209.84 | 22 | 1,464 | 307,201 | 0 | 0 | 0 | 13 | 1,430 | 304,601 | 9 | 34 | 2,600 |
| 20 | | 2.78 | 222.06 | 79.96 | 46 | 8,015 | 640,858 | 0 | 0 | 0 | 38 | 7,754 | 611,597 | 8 | 261 | 29,261 |
| 21 | | 1.30 | 221.05 | 169.83 | 17 | 2,598 | 441,221 | 1 | 2,001 | 360,180 | 14 | 2,570 | 436,791 | 3 | 28 | 4,430 |
| 22 | | 2.02 | 220.84 | 109.46 | 84 | 5,419 | 593,176 | 0 | 0 | 0 | 60 | 2,367 | 448,644 | 24 | 3,052 | 144,532 |
| 23 | | 2.55 | 217.77 | 85.37 | 30 | 4,663 | 398,087 | 0 | 0 | 0 | 21 | 3,403 | 375,843 | 9 | 1,260 | 22,244 |
| 24 | | 1.00 | 217.00 | 217.00 | 1 | 7 | 1,519 | 0 | 0 | 0 | 1 | 7 | 1,519 | 0 | 0 | 0 |
| 25 | | 2.17 | 216.99 | 100.16 | 32 | 2,318 | 232,175 | 0 | 0 | 0 | 29 | 2,284 | 226,024 | 3 | 34 | 6,151 |

(1) Based on Jan 1-Dec 31, year-end storm normalized data (IEEE Op Co Level)
"Total" includes all causes, all levels
"Bulk Power Supply" includes Distribution Substation, Transmission Substation, and Transmission Line levels, all cause codes
"Unplanned" inlcudes all levels and no outages with a primary cause code of "Intentional/Planned", Includes Bulk Power Supply outages
"Planned" includes all levels and only outages with a primary cause code of "Intentional/Planned", Includes Bulk Power Supply outages

**Metro East Poor Performing Feeders (2)**
Based on performance Sept 2014 to Aug 2015

| Feeder ID | SAIFI | SAIDI | CAIDI | Reasons for Poor Performance | Operational Changes Made, Considering or Planned |
|---|---|---|---|---|---|
| | 4.03 | 206.64 | 51.28 | UG Switchgear Failure same location 7/15/15, 7/28/15 & 8/3/15 | Re-located UG Switchgear, Mice causing outages. Completed 2015 |
| | 4.03 | 3,266.57 | 809.94 | Many Tree outages-Storm 7/18/15 & 7/19/15 | Schedule Feeder trim in 2016 |
| | 3.30 | 358.29 | 108.43 | Lightning Striike 7/18/15, Tree on Feeder 8/22/15 & Head End Feeder Cable 7/28 | All Feeder outages repaired in 2015 |
| | 1.43 | 211.46 | 147.74 | Insulator Failure 10/2/14-Replaced 2014 | Relocate 2100ft on OH tap due to tree contact-Planned in 2016 |
| | | | | | |

***Security Data Ends]***

(2) Distribution outages only, storms are included

| | | | | | All levels, All Causes included | | | All Causes, Distribution Substation, Transmission Substation, and Transmission Line levels | | | All levels, No "Planned" Cause Includes Bulk Power Supply | | | All levels, "Planned" Cause only Includes Bulk Power Supply | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Metro West** | | | | **Total** | | | **Bulk Power Supply** | | | **Unplanned** | | | **Planned** | | |
| | Feeder ID | SAIFI | SAIDI | CAIDI | Outages | Customers Affected | Customer Mins Out | Outages | Customers Affected | Customer Mins Out | Outages | Customers Affected | Customer Mins Out | Outages | Customers Affected | Customer Mins Out |
| | ***[Security Data Begins*** | | | | | | | | | | | | | | | |
| 1 | | 1.00 | 1,347.00 | 1,347.00 | 1 | 1 | 1,347 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1,347 |
| 2 | | 3.22 | 675.32 | 209.85 | 21 | 2,169 | 455,167 | 2 | 1,350 | 195,750 | 16 | 2,135 | 452,792 | 5 | 34 | 2,375 |
| 3 | | 1.92 | 504.51 | 262.93 | 156 | 9,667 | 2,541,731 | 0 | 0 | 0 | 101 | 8,651 | 2,497,169 | 55 | 1,016 | 44,562 |
| 4 | | 2.81 | 496.23 | 176.76 | 67 | 2,827 | 499,707 | 2 | 2,136 | 389,786 | 30 | 2,657 | 484,184 | 37 | 170 | 15,523 |
| 5 | | 1.30 | 471.97 | 363.81 | 7 | 96 | 34,926 | 0 | 0 | 0 | 7 | 96 | 34,926 | 0 | 0 | 0 |
| 6 | | 6.34 | 467.85 | 73.80 | 14 | 3,810 | 281,179 | 1 | 1,541 | 10,787 | 12 | 3,741 | 280,339 | 2 | 69 | 840 |
| 7 | | 2.12 | 457.68 | 215.46 | 21 | 1,283 | 276,437 | 1 | 605 | 4,235 | 17 | 1,214 | 260,013 | 4 | 69 | 16,424 |
| 8 | | 3.07 | 457.56 | 149.13 | 15 | 3,642 | 543,119 | 0 | 0 | 0 | 15 | 3,642 | 543,119 | 0 | 0 | 0 |
| 9 | | 1.86 | 411.63 | 221.09 | 4 | 849 | 187,704 | 0 | 0 | 0 | 3 | 848 | 187,371 | 1 | 1 | 333 |
| 10 | | 2.29 | 379.01 | 165.54 | 29 | 2,665 | 441,162 | 2 | 2,325 | 391,728 | 16 | 2,572 | 431,810 | 13 | 93 | 9,352 |
| 11 | | 2.07 | 371.62 | 179.10 | 15 | 4,461 | 798,979 | 0 | 0 | 0 | 11 | 4,389 | 787,400 | 4 | 72 | 11,579 |
| 12 | | 3.46 | 362.94 | 104.92 | 14 | 1,944 | 203,971 | 1 | 561 | 3,927 | 11 | 1,935 | 203,155 | 3 | 9 | 816 |
| 13 | | 0.75 | 357.31 | 479.39 | 17 | 960 | 460,210 | 0 | 0 | 0 | 17 | 960 | 460,210 | 0 | 0 | 0 |
| 14 | | 2.65 | 354.89 | 133.74 | 92 | 4,360 | 583,086 | 0 | 0 | 0 | 49 | 3,419 | 477,384 | 43 | 941 | 105,701 |
| 15 | | 2.31 | 354.25 | 153.10 | 7 | 752 | 115,130 | 0 | 0 | 0 | 7 | 752 | 115,130 | 0 | 0 | 0 |
| 16 | | 1.79 | 332.24 | 185.27 | 25 | 3,314 | 613,983 | 0 | 0 | 0 | 19 | 3,148 | 609,076 | 6 | 166 | 4,907 |
| 17 | | 1.52 | 329.12 | 216.17 | 6 | 169 | 36,532 | 0 | 0 | 0 | 5 | 167 | 36,316 | 1 | 2 | 216 |
| 18 | | 1.26 | 315.14 | 250.82 | 22 | 490 | 122,903 | 0 | 15 | 3,045 | 17 | 484 | 122,491 | 5 | 6 | 412 |
| 19 | | 2.67 | 313.63 | 117.36 | 97 | 3,311 | 388,588 | 0 | 0 | 0 | 28 | 2,989 | 367,220 | 69 | 322 | 21,368 |
| 20 | | 3.18 | 313.23 | 98.61 | 9 | 3,459 | 341,104 | 0 | 0 | 0 | 5 | 2,308 | 324,367 | 4 | 1,151 | 16,737 |
| 21 | | 2.53 | 312.48 | 123.68 | 32 | 4,866 | 601,845 | 2 | 3,873 | 463,767 | 22 | 4,798 | 597,747 | 10 | 68 | 4,098 |
| 22 | | 1.96 | 312.19 | 158.92 | 18 | 2,157 | 342,787 | 0 | 0 | 0 | 15 | 2,061 | 336,479 | 3 | 96 | 6,308 |
| 23 | | 1.19 | 308.95 | 259.44 | 96 | 7,438 | 1,929,711 | 0 | 0 | 0 | 60 | 7,244 | 1,910,068 | 36 | 194 | 19,644 |
| 24 | | 2.09 | 307.89 | 147.44 | 23 | 2,510 | 370,079 | 2 | 2,413 | 352,399 | 14 | 2,497 | 368,983 | 9 | 13 | 1,096 |
| 25 | | 2.63 | 307.56 | 116.74 | 24 | 4,310 | 503,162 | 0 | 0 | 0 | 17 | 4,297 | 502,360 | 7 | 13 | 802 |

(1) Based on Jan 1-Dec 31, year-end storm normalized data (IEEE Op Co Level)
"Total" includes all causes, all levels
"Bulk Power Supply" includes Distribution Substation, Transmission Substation, and Transmission Line levels, all cause codes
"Unplanned" inlcudes all levels and no outages with a primary cause code of "Intentional/Planned", Includes Bulk Power Supply outages
"Planned" includes all levels and only outages with a primary cause code of "Intentional/Planned", Includes Bulk Power Supply outages

**Metro West Poor Performing Feeders (2)**
Based on performance Sept 2014 to Aug 2015

| Feeder ID | SAIFI | SAIDI | CAIDI | Reasons for Poor Performance | Operational Changes Made, Considering or Planned |
|---|---|---|---|---|---|
| | 2.07 | 769.59 | 372.42 | 30 miles of Mainline lots of taps, Storm 7/18/15 outaged taps | New Lake Bavaris Sub to break up long feeder-Energized end of 2016 |
| | 3.65 | 457.37 | 125.21 | Feeder Pole Fire 5/7/15, Tap Cable Failures | Tap Cable was replaced end of 2015 |
| | 2.87 | 499.90 | 174.29 | UG Switch Center Failure 10/5/14 | Switch Center replaced 2014 |
| | 1.90 | 224.44 | 117.87 | Lightning arrester failure 3/29/15-Arrester replaced 2015 | Replacing poles & X-arms as needed at Hwy 13 & Hwy 35-End of 2016 |
| | | | | | |

***Security Data Ends]***

(2) Distribution outages only, storms are included

| | | | | | All levels, All Causes included | | | All Causes, Distribution Substation, Transmission Substation, and Transmission Line levels | | | All levels, No "Planned" Cause Includes Bulk Power Supply | | | All levels, "Planned" Cause only Includes Bulk Power Supply | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Northwest** | | | | | **Total** | | | **Bulk Power Supply** | | | **Unplanned** | | | **Planned** | | |
| | Feeder ID | SAIFI | SAIDI | CAIDI | Outages | Customers Affected | Customer Mins Out | Outages | Customers Affected | Customer Mins Out | Outages | Customers Affected | Customer Mins Out | Outages | Customers Affected | Customer Mins Out |
| | ***[Security Data Begins*** | | | | | | | | | | | | | | | |
| 1 | | 2.40 | 1,423.10 | 593.39 | 8 | 813 | 482,430 | 1 | 461 | 468,222 | 7 | 574 | 480,279 | 1 | 239 | 2,151 |
| 2 | | 2.74 | 523.31 | 190.77 | 29 | 2,392 | 456,329 | 0 | 0 | 0 | 23 | 1,967 | 356,833 | 6 | 425 | 99,496 |
| 3 | | 1.04 | 491.60 | 471.24 | 11 | 1,183 | 557,472 | 1 | 1,134 | 553,392 | 11 | 1,183 | 557,472 | 0 | 0 | 0 |
| 4 | | 2.11 | 382.06 | 181.08 | 10 | 979 | 177,278 | 1 | 465 | 166,935 | 8 | 506 | 172,568 | 2 | 473 | 4,710 |
| 5 | | 3.75 | 292.35 | 77.96 | 18 | 2,400 | 187,102 | 3 | 1,917 | 87,543 | 17 | 2,368 | 185,982 | 1 | 32 | 1,120 |
| 6 | | 1.34 | 263.26 | 196.57 | 6 | 825 | 162,167 | 0 | 0 | 0 | 5 | 824 | 162,077 | 1 | 1 | 90 |
| 7 | | 1.70 | 232.04 | 136.64 | 3 | 90 | 12,298 | 0 | 0 | 0 | 3 | 90 | 12,298 | 0 | 0 | 0 |
| 8 | | 2.04 | 215.83 | 105.89 | 8 | 695 | 73,597 | 0 | 0 | 0 | 6 | 167 | 44,689 | 2 | 528 | 28,908 |
| 9 | | 0.79 | 197.55 | 251.43 | 19 | 176 | 44,252 | 1 | 101 | 29,896 | 18 | 152 | 43,892 | 1 | 24 | 360 |
| 10 | | 1.07 | 188.40 | 176.19 | 4 | 324 | 57,085 | 0 | 0 | 0 | 3 | 19 | 3,405 | 1 | 305 | 53,680 |
| 11 | | 1.86 | 178.90 | 96.13 | 30 | 1,997 | 191,964 | 1 | 1,080 | 30,240 | 24 | 1,809 | 170,676 | 6 | 188 | 21,288 |
| 12 | | 1.57 | 175.94 | 112.02 | 19 | 1,291 | 144,624 | 1 | 821 | 84,563 | 19 | 1,291 | 144,624 | 0 | 0 | 0 |
| 13 | | 1.13 | 163.84 | 144.95 | 48 | 3,599 | 521,669 | 0 | 0 | 0 | 48 | 3,599 | 521,669 | 0 | 0 | 0 |
| 14 | | 1.02 | 145.15 | 142.17 | 10 | 1,316 | 187,093 | 0 | 0 | 0 | 10 | 1,316 | 187,093 | 0 | 0 | 0 |
| 15 | | 1.31 | 144.00 | 110.28 | 42 | 5,244 | 578,314 | 0 | 0 | 0 | 42 | 5,244 | 578,314 | 0 | 0 | 0 |
| 16 | | 3.07 | 143.67 | 46.72 | 14 | 5,624 | 262,772 | 3 | 5,484 | 244,952 | 13 | 5,614 | 260,922 | 1 | 10 | 1,850 |
| 17 | | 2.34 | 134.49 | 57.49 | 33 | 5,827 | 335,018 | 1 | 2,444 | 73,320 | 31 | 3,373 | 236,768 | 2 | 2,454 | 98,250 |
| 18 | | 1.21 | 133.04 | 109.76 | 15 | 823 | 90,335 | 0 | 0 | 0 | 13 | 786 | 88,447 | 2 | 37 | 1,888 |
| 19 | | 1.42 | 132.49 | 93.32 | 17 | 3,494 | 326,054 | 0 | 0 | 0 | 15 | 3,438 | 321,730 | 2 | 56 | 4,324 |
| 20 | | 0.85 | 126.04 | 148.49 | 37 | 2,200 | 326,684 | 0 | 0 | 0 | 33 | 1,708 | 261,911 | 4 | 492 | 64,773 |
| 21 | | 2.29 | 115.77 | 50.50 | 14 | 2,249 | 113,567 | 1 | 983 | 14,745 | 14 | 2,249 | 113,567 | 0 | 0 | 0 |
| 22 | | 1.08 | 108.82 | 100.74 | 10 | 942 | 94,895 | 0 | 1 | 296 | 9 | 937 | 92,925 | 1 | 5 | 1,970 |
| 23 | | 1.01 | 91.96 | 90.62 | 2 | 69 | 6,253 | 1 | 68 | 6,188 | 2 | 69 | 6,253 | 0 | 0 | 0 |
| 24 | | 0.79 | 91.84 | 116.92 | 11 | 487 | 56,938 | 0 | 0 | 0 | 10 | 473 | 55,720 | 1 | 14 | 1,218 |
| 25 | | 1.07 | 85.13 | 79.24 | 20 | 853 | 67,594 | 1 | 800 | 58,400 | 19 | 849 | 67,414 | 1 | 4 | 180 |

(1) Based on Jan 1-Dec 31, year-end storm normalized data (IEEE Op Co Level)
"Total" includes all causes, all levels
"Bulk Power Supply" includes Distribution Substation, Transmission Substation, and Transmission Line levels, all cause codes
"Unplanned" inlcudes all levels and no outages with a primary cause code of "Intentional/Planned", Includes Bulk Power Supply outages
"Planned" includes all levels and only outages with a primary cause code of "Intentional/Planned", Includes Bulk Power Supply outages

**Northwest Poor Performing Feeders (2)**
Based on performance Sept 2014 to Aug 2015

| Feeder ID | SAIFI | SAIDI | CAIDI | Reasons for Poor Performance | Operational Changes Made, Considering or Planned |
|---|---|---|---|---|---|
| | 2.29 | 419.74 | 182.94 | Ice Storm-2/10/15, Regulator-4/16/15 | Repaired completed in 2015 |
| | 2.14 | 307.20 | 143.25 | Lightning Strike caused Recloser to fail 7/15/16, Tree 7/12/15 | Replaced Recloser and sub-fused tap for tree issues-Complete 201 |
| | | | | | |
| | | | | | |
| | | | | | |

***Security Data Ends]***

(2) Distribution outages only, storms are included

| | | | | | All levels, All Causes included | | | All Causes, Distribution Substation, Transmission Substation, and Transmission Line levels | | | All levels, No "Planned" Cause Includes Bulk Power Supply | | | All levels, "Planned" Cause only Includes Bulk Power Supply | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Southeast** | | | | | **Total** | | | **Bulk Power Supply** | | | **Unplanned** | | | **Planned** | | |
| | Feeder ID | SAIFI | SAIDI | CAIDI | Outages | Customers Affected | Customer Mins Out | Outages | Customers Affected | Customer Mins Out | Outages | Customers Affected | Customer Mins Out | Outages | Customers Affected | Customer Mins Out |
| | ***[Security Data Begins*** | | | | | | | | | | | | | | | |
| 1 | | 4.28 | 589.07 | 137.59 | 14 | 852 | 117,225 | 2 | 401 | 23,108 | 14 | 852 | 117,225 | 0 | 0 | 0 |
| 2 | | 2.71 | 588.18 | 216.95 | 6 | 122 | 26,468 | 1 | 47 | 9,494 | 5 | 76 | 22,972 | 1 | 46 | 3,496 |
| 3 | | 3.60 | 551.52 | 153.35 | 11 | 615 | 94,310 | 2 | 338 | 19,704 | 11 | 615 | 94,310 | 0 | 0 | 0 |
| 4 | | 2.06 | 537.54 | 260.68 | 17 | 1,361 | 354,779 | 1 | 657 | 132,714 | 17 | 1,361 | 354,779 | 0 | 0 | 0 |
| 5 | | 2.04 | 461.19 | 226.10 | 7 | 359 | 81,169 | 0 | 0 | 0 | 5 | 181 | 47,783 | 2 | 178 | 33,386 |
| 6 | | 3.25 | 382.53 | 117.67 | 13 | 5,094 | 599,424 | 2 | 3,143 | 347,304 | 9 | 4,895 | 585,035 | 4 | 199 | 14,389 |
| 7 | | 1.42 | 328.30 | 230.40 | 23 | 1,385 | 319,109 | 0 | 0 | 0 | 22 | 1,374 | 316,090 | 1 | 11 | 3,019 |
| 8 | | 2.22 | 324.03 | 145.96 | 28 | 2,200 | 321,111 | 1 | 991 | 84,235 | 27 | 2,128 | 315,927 | 1 | 72 | 5,184 |
| 9 | | 1.91 | 315.67 | 165.28 | 34 | 2,078 | 343,446 | 0 | 0 | 0 | 32 | 1,728 | 338,701 | 2 | 350 | 4,745 |
| 10 | | 1.96 | 308.94 | 157.56 | 1 | 100 | 15,756 | 0 | 49 | 931 | 0 | 98 | 15,582 | 1 | 2 | 174 |
| 11 | | 1.09 | 303.84 | 279.73 | 5 | 63 | 17,623 | 1 | 54 | 16,416 | 5 | 63 | 17,623 | 0 | 0 | 0 |
| 12 | | 2.04 | 301.36 | 147.63 | 5 | 790 | 116,626 | 1 | 390 | 78,000 | 5 | 790 | 116,626 | 0 | 0 | 0 |
| 13 | | 2.28 | 278.08 | 121.82 | 7 | 1,518 | 184,923 | 2 | 1,352 | 149,397 | 6 | 1,490 | 177,531 | 1 | 28 | 7,392 |
| 14 | | 1.27 | 275.32 | 217.09 | 15 | 799 | 173,454 | 1 | 629 | 145,299 | 15 | 799 | 173,454 | 0 | 0 | 0 |
| 15 | | 1.06 | 264.83 | 248.94 | 3 | 50 | 12,447 | 0 | 0 | 0 | 2 | 49 | 12,172 | 1 | 1 | 275 |
| 16 | | 1.19 | 261.23 | 219.44 | 50 | 1,913 | 419,798 | 0 | 0 | 0 | 50 | 1,913 | 419,798 | 0 | 0 | 0 |
| 17 | | 3.81 | 260.78 | 68.45 | 54 | 4,553 | 311,637 | 3 | 3,590 | 187,893 | 51 | 4,543 | 311,247 | 3 | 10 | 390 |
| 18 | | 3.20 | 249.05 | 77.79 | 22 | 3,179 | 247,309 | 0 | 0 | 0 | 20 | 3,161 | 243,713 | 2 | 18 | 3,596 |
| 19 | | 1.00 | 247.00 | 247.00 | 1 | 1 | 247 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 247 |
| 20 | | 1.84 | 235.22 | 127.70 | 3 | 536 | 68,448 | 1 | 284 | 23,572 | 3 | 536 | 68,448 | 0 | 0 | 0 |
| 21 | | 2.14 | 233.40 | 109.24 | 5 | 782 | 85,423 | 2 | 735 | 81,217 | 4 | 767 | 85,003 | 1 | 15 | 420 |
| 22 | | 1.14 | 232.09 | 202.94 | 5 | 995 | 201,921 | 1 | 872 | 174,400 | 5 | 995 | 201,921 | 0 | 0 | 0 |
| 23 | | 0.85 | 226.84 | 265.32 | 12 | 112 | 29,716 | 1 | 81 | 24,705 | 12 | 112 | 29,716 | 0 | 0 | 0 |
| 24 | | 1.38 | 208.83 | 151.32 | 14 | 2,222 | 336,224 | 0 | 0 | 0 | 13 | 2,220 | 336,158 | 1 | 2 | 66 |
| 25 | | 2.22 | 194.50 | 87.57 | 10 | 1,386 | 121,368 | 0 | 0 | 0 | 9 | 1,384 | 121,328 | 1 | 2 | 40 |

(1) Based on Jan 1-Dec 31, year-end storm normalized data (IEEE Op Co Level)
"Total" includes all causes, all levels
"Bulk Power Supply" includes Distribution Substation, Transmission Substation, and Transmission Line levels, all cause codes
"Unplanned" inlcudes all levels and no outages with a primary cause code of "Intentional/Planned", Includes Bulk Power Supply outages
"Planned" includes all levels and only outages with a primary cause code of "Intentional/Planned", Includes Bulk Power Supply outages

**Southeast Poor Performing Feeders (2)**
Based on performance Sept 2014 to Aug 2015

| Feeder ID | SAIFI | SAIDI | CAIDI | Reasons for Poor Performance | Operational Changes Made, Considering or Planned |
|---|---|---|---|---|---|
| | 3.25 | 359.86 | 110.80 | Tree Storm 7/18/15, Pole Fire 3/25/15; Tree 8/22/15 | Recloser Replaced in 2015, sub-fusing to be completed 2016; Feeder Cycle Trim in 2106 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

***Security Data Ends]***

(2) Distribution outages only, storms are included

A. The number and percentage of customer meters read by utility personnel (Company).

| | Residential | Commercial | Industrial | Other | A Total | B Total Number of Meters Installed | A÷B Percent Read by Utility (Company) | |
|---|---|---|---|---|---|---|---|---|
| **JANUARY** | 1,550,920 | 156,468 | 10,781 | 4,442 | 1,722,611 | 1,724,461 | 99.89% | |
| **FEBRUARY** | 1,423,637 | 139,541 | 9,534 | 3,992 | 1,576,704 | 1,725,457 | 91.38% | * |
| **MARCH** | 1,552,932 | 156,589 | 10,808 | 4,479 | 1,724,808 | 1,726,180 | 99.92% | |
| **APRIL** | 1,553,428 | 155,757 | 10,516 | 4,433 | 1,724,134 | 1,726,772 | 99.85% | |
| **MAY** | 1,483,174 | 151,924 | 10,649 | 4,277 | 1,650,024 | 1,727,430 | 95.52% | |
| **JUNE** | 1,554,812 | 156,613 | 10,730 | 4,428 | 1,726,583 | 1,728,526 | 99.89% | |
| **JULY** | 1,555,049 | 154,125 | 10,483 | 4,337 | 1,723,994 | 1,729,331 | 99.69% | |
| **AUGUST** | 1,556,405 | 156,796 | 10,833 | 4,412 | 1,728,446 | 1,730,346 | 99.89% | |
| **SEPTEMBER** | 1,556,890 | 156,739 | 10,748 | 4,394 | 1,728,771 | 1,731,419 | 99.85% | |
| **OCTOBER** | 1,559,158 | 157,015 | 10,822 | 4,410 | 1,731,405 | 1,733,263 | 99.89% | |
| **NOVEMBER** | 1,501,913 | 149,200 | 10,210 | 4,239 | 1,665,562 | 1,734,474 | 96.03% | * |
| **DECEMBER** | 1,487,087 | 147,735 | 9,967 | 4,087 | 1,648,876 | 1,735,342 | 95.02% | * |

*The number of working days in a month, the number of weekends in a month, and the number of holidays in a month will impact the percentage of meters read by the utility, particularly in February, November, and December when excluding multiple meter reads on a single meter from the data.

B. The number and percentage of customer meters read by customers.

| | Residential | Commercial | Industrial | Other | A Total | B Total Number of Meters Installed | A÷B Percent Read by Customer |
|---|---|---|---|---|---|---|---|
| **JANUARY** | 18 | | | | 18 | 1,724,461 | 0.0010% |
| **FEBRUARY** | 11 | | | | 11 | 1,725,457 | 0.0006% |
| **MARCH** | 9 | | | | 9 | 1,726,180 | 0.0005% |
| **APRIL** | 14 | | | | 14 | 1,726,772 | 0.0008% |
| **MAY** | 9 | | | | 9 | 1,727,430 | 0.0005% |
| **JUNE** | 18 | | | | 18 | 1,728,526 | 0.0010% |
| **JULY** | 28 | | | | 28 | 1,729,331 | 0.0016% |
| **AUGUST** | 21 | | | | 21 | 1,730,346 | 0.0012% |
| **SEPTEMBER** | 10 | | | | 10 | 1,731,419 | 0.0006% |
| **OCTOBER** | 15 | | | | 15 | 1,733,263 | 0.0009% |
| **NOVEMBER** | 9 | 1 | | | 10 | 1,734,474 | 0.0006% |
| **DECEMBER** | 11 | | | | 11 | 1,735,342 | 0.0006% |

C-1. The number and percentage of customer meters that have not been read by utility personnel for periods of six to 12 months and an explanation as to why they have not been read.

**Account Class: Residential**

| **Message** | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Jun** | **Jul** | **Aug** | **Sep** | **Oct** | **Nov** | **Dec** | **Total** | **Percent** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NO ANSWER | 79 | 56 | 65 | 63 | 69 | 67 | 67 | 57 | 44 | 45 | 41 | 28 | 681 | 27.15% |
| NO READING RETURNED | 84 | 55 | 51 | 29 | 19 | 23 | 27 | 42 | 58 | 69 | 91 | 129 | 677 | 26.99% |
| DOOR LOCKED | 34 | 39 | 38 | 21 | 23 | 24 | 19 | 14 | 14 | 13 | 7 | 4 | 250 | 9.97% |
| OC Meter Maint | 16 | 5 | 4 | 5 | 6 | 8 | 4 | 15 | 29 | 23 | 25 | 32 | 172 | 6.86% |
| NEED KEY OR CODE | 14 | 12 | 22 | 18 | 17 | 13 | 10 | 7 | 4 | 7 | 7 | 3 | 134 | 5.34% |
| BAD KEY OR CODE | 15 | 6 | 11 | 9 | 6 | 11 | 9 | 6 | 7 | 6 | 4 | 1 | 91 | 3.63% |
| METER OFF | 6 | 7 | 9 | 11 | 10 | 7 | 4 | 4 | 7 | 7 | 5 | 7 | 84 | 3.35% |
| SERVICE CUT AT POLE | 5 | 4 | 5 | 6 | 8 | 6 | 5 | 6 | 4 | 5 | 4 | 4 | 62 | 2.47% |
| DEAD REGISTER | 12 | 6 | 2 | 2 | 3 | 4 | 5 | 8 | 3 | 3 | 2 | 4 | 54 | 2.15% |
| VACANT | 2 | 3 | 6 | 5 | 3 | 3 | 5 | 3 | 2 | 7 | 1 | 4 | 44 | 1.75% |
| KEY NOT AVAILABLE | 5 | 7 | 5 | 5 | 1 | 3 | 4 | 7 | 2 | 3 | 1 | 0 | 43 | 1.71% |
| METER REMOVED | 6 | 5 | 9 | 5 | 2 | 5 | 3 | 1 | 0 | 3 | 3 | 0 | 42 | 1.67% |
| GATE PROBLEM | 2 | 4 | 3 | 1 | 4 | 4 | 3 | 3 | 1 | 3 | 7 | 2 | 37 | 1.48% |
| DOG | 8 | 3 | 6 | 3 | 3 | 6 | 2 | 0 | 2 | 0 | 3 | 0 | 36 | 1.44% |
| METER BLOCKED | 4 | 1 | 1 | 0 | 2 | 5 | 4 | 3 | 2 | 0 | 2 | 0 | 24 | 0.96% |
| UNSAFE CONDITION | 3 | 2 | 1 | 2 | 0 | 1 | 0 | 0 | 2 | 2 | 2 | 0 | 15 | 0.60% |
| CUSTOMER READING | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 12 | 0.48% |
| HANDHELD ESTIMATE | 1 | 0 | 1 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 7 | 0.28% |
| CUST REQUESTS SKIP | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 6 | 0.24% |
| BAD ROAD | 1 | 0 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 5 | 0.20% |
| NO ACCESS BACK YARD | 2 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0.20% |
| SEASONAL | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0.20% |
| CANNOT LOCATE | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 4 | 0.16% |
| REFUSED ADMITTANCE | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0.12% |
| ABS MCC Calc Reading | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0.08% |
| ABS Stale Reads - MCC | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0.08% |
| CLOSED LOOP | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0.08% |
| NO WINDOW CARD | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0.08% |
| SNOW/MUD | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0.08% |
| ABS Data Corrupt - MCC | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.04% |
| DOG NEXT DOOR | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.04% |
| OC CellNet New: no premise ID | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.04% |
| OC Record Mismatch | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0.04% |
| SPS DEAD REGISTER | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.04% |
| TOTAL | 305 | 220 | 249 | 193 | 181 | 193 | 177 | 177 | 183 | 199 | 210 | 221 | 2508 | 100% |

C-1. The number and percentage of customer meters that have not been read by utility personnel for periods of six to 12 months and an explanation as to why they have not been read.

**Account Class: Commercial**

| **Message** | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Jun** | **Jul** | **Aug** | **Sep** | **Oct** | **Nov** | **Dec** | **Total** | **Percent** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NO READING RETURNED | 17 | 14 | 14 | 10 | 13 | 11 | 8 | 8 | 29 | 24 | 19 | 40 | 207 | 21.97% |
| METER OFF | 13 | 14 | 22 | 21 | 17 | 14 | 20 | 11 | 12 | 7 | 13 | 12 | 176 | 18.68% |
| DEAD REGISTER | 6 | 14 | 11 | 13 | 15 | 11 | 10 | 17 | 6 | 10 | 8 | 5 | 126 | 13.38% |
| NO ANSWER | 9 | 11 | 9 | 6 | 8 | 6 | 5 | 7 | 3 | 4 | 4 | 1 | 73 | 7.75% |
| METER REMOVED | 11 | 10 | 11 | 7 | 7 | 4 | 3 | 2 | 1 | 3 | 2 | 5 | 66 | 7.01% |
| DOOR LOCKED | 6 | 5 | 10 | 7 | 3 | 5 | 6 | 6 | 4 | 3 | 2 | 3 | 60 | 6.37% |
| VACANT | 2 | 3 | 6 | 5 | 2 | 4 | 3 | 2 | 3 | 4 | 4 | 4 | 42 | 4.46% |
| SEASONAL | 2 | 0 | 5 | 6 | 3 | 4 | 1 | 4 | 2 | 2 | 3 | 2 | 34 | 3.61% |
| CANNOT LOCATE | 5 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 0 | 2 | 1 | 1 | 29 | 3.08% |
| BAD KEY OR CODE | 1 | 1 | 3 | 4 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 21 | 2.23% |
| GATE PROBLEM | 3 | 1 | 2 | 2 | 0 | 3 | 2 | 0 | 1 | 1 | 2 | 1 | 18 | 1.91% |
| NEED KEY OR CODE | 2 | 3 | 2 | 1 | 1 | 2 | 1 | 0 | 0 | 1 | 2 | 1 | 16 | 1.70% |
| OC Meter Maint | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 1 | 3 | 2 | 4 | 15 | 1.59% |
| KEY NOT AVAILABLE | 2 | 1 | 2 | 1 | 2 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 11 | 1.17% |
| UNSAFE CONDITION | 1 | 2 | 0 | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 2 | 10 | 1.06% |
| SERVICE CUT AT POLE | 3 | 1 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 9 | 0.96% |
| BAD ROAD | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 4 | 0.42% |
| CUST REQUESTS SKIP | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 4 | 0.42% |
| HANDHELD ESTIMATE | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 0.42% |
| REFUSED ADMITTANCE | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 0.42% |
| WRONG ROUTE | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0.32% |
| Bad Ert | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0.21% |
| METER BLOCKED | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0.21% |
| ABS MCC Calc Reading | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.11% |
| BUSINESS CLOSED | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0.11% |
| CUST MISSED APPOINTMENT | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0.11% |
| CUSTOMER READING | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.11% |
| DOG | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0.11% |
| SPS DEAD REGISTER | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.11% |
| TOTAL | 86 | 84 | 105 | 90 | 83 | 76 | 67 | 66 | 65 | 66 | 68 | 86 | 942 | 100% |

C-1. The number and percentage of customer meters that have not been read by utility personnel for periods of six to 12 months and an explanation as to why they have not been read.

**Account Class: Industrial**

| Message | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total | Percent |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NO READING RETURNED | 28 | 33 | 25 | 29 | 30 | 25 | 32 | 28 | 30 | 20 | 12 | 19 | 311 | 80.36% |
| HANDHELD ESTIMATE | 5 | 5 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 4.39% |
| METER OFF | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 13 | 3.36% |
| METER REMOVED | 0 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 13 | 3.36% |
| CUST REQUESTS SKIP | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 4 | 0 | 8 | 2.07% |
| CUSTOMER READING | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 8 | 2.07% |
| CANNOT LOCATE | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 4 | 1.03% |
| DEAD REGISTER | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 4 | 1.03% |
| DOOR LOCKED | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 4 | 1.03% |
| SERVICE CUT AT POLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 0.78% |
| GATE PROBLEM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.26% |
| VACANT | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.26% |
| TOTAL | 35 | 43 | 37 | 35 | 33 | 35 | 35 | 32 | 34 | 25 | 20 | 23 | 387 | 100% |

C-1. The number and percentage of customer meters that have not been read by utility personnel for periods of six to 12 months and an explanation as to why they have not been read.

**Account Class: Other**

| Message | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total | Percent |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NO READING RETURNED | 10 | 12 | 12 | 12 | 5 | 5 | 5 | 6 | 6 | 5 | 4 | 7 | 89 | 78.76% |
| CUSTOMER READING | 2 | 1 | 1 | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 2 | 2 | 18 | 15.93% |
| METER REMOVED | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 2.65% |
| CANNOT LOCATE | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.88% |
| HANDHELD ESTIMATE | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.88% |
| WRONG ROUTE | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.88% |
| TOTAL | 13 | 13 | 14 | 14 | 8 | 8 | 8 | 7 | 7 | 6 | 6 | 9 | 113 | 100% |

C-2. The number and percentage of customer meters that have not been read by utility personnel for periods of longer than 12 months and an explanation as to why they have not been read.

**Account Class: Residential**

| **Message** | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Jun** | **Jul** | **Aug** | **Sep** | **Oct** | **Nov** | **Dec** | **Total** | **Percent** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NO ANSWER | 24 | 21 | 33 | 27 | 28 | 26 | 30 | 24 | 22 | 19 | 18 | 11 | 283 | 37.04% |
| NO READING RETURNED | 20 | 11 | 11 | 9 | 3 | 10 | 9 | 21 | 24 | 20 | 23 | 22 | 183 | 23.95% |
| DOOR LOCKED | 7 | 9 | 8 | 11 | 4 | 4 | 6 | 5 | 2 | 2 | 1 | 1 | 60 | 7.85% |
| OC Meter Maint | 3 | 3 | 4 | 2 | 1 | 3 | 0 | 2 | 5 | 6 | 7 | 10 | 46 | 6.02% |
| SERVICE CUT AT POLE | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 1 | 4 | 3 | 4 | 35 | 4.58% |
| METER OFF | 2 | 3 | 3 | 4 | 3 | 2 | 3 | 2 | 3 | 3 | 2 | 3 | 33 | 4.32% |
| NEED KEY OR CODE | 2 | 1 | 2 | 2 | 3 | 2 | 4 | 2 | 2 | 1 | 0 | 1 | 22 | 2.88% |
| VACANT | 2 | 0 | 2 | 3 | 2 | 3 | 1 | 2 | 1 | 1 | 0 | 1 | 18 | 2.36% |
| BAD KEY OR CODE | 1 | 1 | 1 | 1 | 2 | 1 | 3 | 3 | 2 | 2 | 0 | 0 | 17 | 2.23% |
| DOG | 3 | 1 | 2 | 1 | 1 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 13 | 1.70% |
| CUSTOMER READING | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 11 | 1.44% |
| DEAD REGISTER | 1 | 1 | 2 | 0 | 0 | 1 | 1 | 2 | 0 | 1 | 0 | 0 | 9 | 1.18% |
| KEY NOT AVAILABLE | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 6 | 0.79% |
| METER REMOVED | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 4 | 0.52% |
| UNSAFE CONDITION | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0.52% |
| GATE PROBLEM | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0.39% |
| SEASONAL | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0.39% |
| BAD ROAD | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0.26% |
| CUST REQUESTS SKIP | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0.26% |
| METER BLOCKED | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 0.26% |
| NO WINDOW CARD | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0.26% |
| REFUSED ADMITTANCE | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0.26% |
| SNOW/MUD | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0.26% |
| NO ACCESS BACK YARD | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.13% |
| OC CellNet New: no premise ID | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.13% |
| TOTAL | 78 | 59 | 73 | 67 | 55 | 63 | 67 | 69 | 63 | 61 | 56 | 53 | 764 | 100% |

C-2. The number and percentage of customer meters that have not been read by utility personnel for periods of longer than 12 months and an explanation as to why they have not been read.

**Account Class: Commercial**

| Message | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total | Percent |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METER OFF | 7 | 7 | 9 | 6 | 5 | 3 | 6 | 5 | 9 | 4 | 10 | 7 | 78 | 25.16% |
| NO READING RETURNED | 3 | 5 | 2 | 3 | 4 | 2 | 3 | 3 | 13 | 9 | 8 | 13 | 68 | 21.94% |
| DEAD REGISTER | 0 | 2 | 1 | 3 | 3 | 5 | 8 | 10 | 3 | 8 | 4 | 2 | 49 | 15.81% |
| NO ANSWER | 4 | 2 | 1 | 2 | 2 | 3 | 2 | 3 | 1 | 2 | 3 | 0 | 25 | 8.06% |
| VACANT | 0 | 1 | 3 | 3 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 18 | 5.81% |
| DOOR LOCKED | 2 | 1 | 3 | 1 | 1 | 2 | 1 | 0 | 0 | 2 | 2 | 2 | 17 | 5.48% |
| SEASONAL | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 2 | 2 | 2 | 2 | 1 | 13 | 4.19% |
| METER REMOVED | 0 | 1 | 2 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 9 | 2.90% |
| KEY NOT AVAILABLE | 1 | 0 | 0 | 0 | 2 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 6 | 1.94% |
| GATE PROBLEM | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 1 | 0 | 5 | 1.61% |
| BAD KEY OR CODE | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 1.29% |
| SERVICE CUT AT POLE | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 1.29% |
| HANDHELD ESTIMATE | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0.97% |
| NEED KEY OR CODE | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 3 | 0.97% |
| CANNOT LOCATE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 0.65% |
| CUST REQUESTS SKIP | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0.65% |
| OC Meter Maint | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 0.65% |
| METER BLOCKED | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0.32% |
| WRONG ROUTE | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.32% |
| TOTAL | 20 | 22 | 25 | 20 | 20 | 24 | 25 | 26 | 31 | 31 | 35 | 31 | 310 | 100% |

C-2. The number and percentage of customer meters that have not been read by utility personnel for periods of longer than 12 months and an explanation as to why they have not been read.

**Account Class: Industrial**

| Message | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total | Percent |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NO READING RETURNED | 7 | 8 | 7 | 4 | 9 | 5 | 13 | 12 | 12 | 9 | 5 | 11 | 102 | 76.12% |
| METER OFF | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 12 | 8.96% |
| METER REMOVED | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9 | 6.72% |
| CUST REQUESTS SKIP | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 4 | 0 | 8 | 5.97% |
| CUSTOMER READING | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 3 | 2.24% |
| TOTAL | 8 | 9 | 8 | 6 | 11 | 11 | 16 | 15 | 15 | 11 | 11 | 13 | 134 | 100% |

C-2. The number and percentage of customer meters that have not been read by utility personnel for periods of longer than 12 months and an explanation as to why they have not been read.

**Account Class: Other**

| **Message** | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Jun** | **Jul** | **Aug** | **Sep** | **Oct** | **Nov** | **Dec** | **Total** | **Percent** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NO READING RETURNED | 4 | 9 | 9 | 8 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 68 | 75.56% |
| CUSTOMER READING | 2 | 1 | 1 | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 2 | 2 | 18 | 20% |
| METER REMOVED | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 3.33% |
| HANDHELD ESTIMATE | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1.11% |
| TOTAL | 6 | 10 | 10 | 10 | 8 | 8 | 8 | 6 | 6 | 6 | 6 | 6 | 90 | 100% |

D. Total number of meters installed by month.**

| | **Residential** | **Commercial** | **Industrial** | **Other** | **Total** |
|---|---|---|---|---|---|
| JANUARY | 1,551,991 | 156,839 | 10,838 | 4,793 | 1,724,461 |
| FEBRUARY | 1,552,884 | 156,936 | 10,844 | 4,793 | 1,725,457 |
| MARCH | 1,553,618 | 156,917 | 10,852 | 4,793 | 1,726,180 |
| APRIL | 1,554,265 | 156,877 | 10,856 | 4,774 | 1,726,772 |
| MAY | 1,554,895 | 156,907 | 10,855 | 4,773 | 1,727,430 |
| JUNE | 1,555,901 | 156,988 | 10,863 | 4,774 | 1,728,526 |
| JULY | 1,556,674 | 157,044 | 10,873 | 4,740 | 1,729,331 |
| AUGUST | 1,557,580 | 157,157 | 10,874 | 4,735 | 1,730,346 |
| SEPTEMBER | 1,558,570 | 157,235 | 10,882 | 4,732 | 1,731,419 |
| OCTOBER | 1,560,265 | 157,379 | 10,883 | 4,736 | 1,733,263 |
| NOVEMBER | 1,561,278 | 157,578 | 10,883 | 4,735 | 1,734,474 |
| DECEMBER | 1,561,960 | 157,769 | 10,880 | 4,733 | 1,735,342 |

**For this year's report, we have updated our reporting process to remove "deleted meters" from the total number of meters installed per month. The "deleted meters" designation is given to meters that were incorrectly entered into the system and were never truly installed at a premise. Therefore, we feel that removing them from this report is appropriate. As a result, our total number of installed meters in 2015 is less than in 2014. We will use this methodology going forward.

*R=Residential*

*C=Commercial*

| | Jan-15 | | Feb-15 | | Mar-15 | | Apr-15 | | May-15 | | Jun-15 | | Jul-15 | | Aug-15 | | Sep-15 | | Oct-15 | | Nov-15 | | Dec-15 | | Total 2015 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | R | C | R | C | R | C | R | C | R | C | R | C | R | C | R | C | R | C | R | C | R | C | R | C | R | C |
| **Number of customers who received disconnect notices** [1] | 104,423 | 7,814 | 98,548 | 3,684 | 105,258 | 347 | 104,884 | 6,439 | 70,311 | 5,446 | 72,046 | 1,791 | 71,426 | 4,301 | 83,219 | 4,968 | 93,283 | 4,539 | 94,067 | 9,104 | 70,244 | 7,348 | 75,066 | 4,520 | 1,042,775 | 60,301 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Number of customers who sought cold weather rule protection** [1, 2] | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Sought** | 14,777 | 0 | 14,011 | 0 | 20,670 | 0 | 40,219 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24,669 | 0 | 21,691 | 0 | 15,919 | 0 | 151,956 | 0 |
| **Granted** | 14,777 | 0 | 14,011 | 0 | 20,670 | 0 | 40,219 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24,669 | 0 | 21,691 | 0 | 15,919 | 0 | 151,956 | 0 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Number of customers locked for nonpayment** | 1,072 | 35 | 729 | 42 | 1,359 | 85 | 3,132 | 80 | 4,209 | 54 | 4,368 | 85 | 3,558 | 51 | 2,824 | 66 | 3,063 | 66 | 925 | 26 | 803 | 10 | 714 | 25 | 26,756 | 625 |
| **Number of total customers restored to service within 24 hours** | 616 | 7 | 436 | 9 | 884 | 9 | 1,273 | 8 | 1,538 | 0 | 1,634 | 7 | 1,460 | 0 | 1,086 | 12 | 1,358 | 6 | 453 | 1 | 458 | 3 | 360 | 3 | 11,556 | 65 |
| **Number of customers restored to service with pay arrangements** | 46 | 1 | 27 | 1 | 54 | 1 | 196 | 0 | 202 | 0 | 190 | 0 | 147 | 0 | 109 | 0 | 134 | 0 | 47 | 0 | 25 | 0 | 24 | 0 | 1,201 | 0 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Number of customers requesting emergency medical account status** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Requested** | 119 | | 91 | | 157 | | 324 | | 390 | | 385 | | 442 | | 397 | | 411 | | 236 | | 184 | | 197 | | 3,333 | |
| **Denied** [3] | 30 | | 19 | | 31 | | 69 | | 99 | | 114 | | 110 | | 72 | | 102 | | 63 | | 29 | | 38 | | 776 | |

**Number of bankruptcies: 561**

1 The data for customers receiving disconnect notices and seeking cold weather rule protection represents a combination of gas and electric customers. Approximately 94% of Xcel Energy's Minnesota customers are electric or combined gas and electric customers. For those customers receiving gas and electric service, the disconnect is due to the total amount of regulated charges overdue. Thus the ability to track disconnects due to electric non-payment would be difficult since Xcel Energy's customer service system does not have the functionality to sort the data in this manner.

2 Due to changes in state law, cold weather rule protection specific to low-income is not tracked by the system. The Company recognizes as a matter of policy customers that entered into payment arrangements with the company as being protected under the cold weather rule.

3 Reasons for denial of emergency medical account status:
Customer did not return form.
Doctor refused to certify as Medical/Life Support.

***Residential***

| | Jan-15 | Feb-15 | Mar-15 | Apr-15 | May-03 | Jun-15 | Jul-15 | Aug-15 | Sep-15 | Oct-15 | Nov-15 | Dec-15 | **Total 2015** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| # Service Installations | 239 | 212 | 313 | 291 | 279 | 324 | 354 | 422 | 345 | 445 | 330 | 133 | **3687** |
| Avg days to complete from customer and site ready | 0.1 | 3.5 | 1.3 | 4.0 | 3.2 | 1.0 | 2.0 | 1.7 | 4.0 | 1.6 | 2.0 | 1.6 | **2.2** |

***Commercial***

| | Jan-15 | Feb-15 | Mar-15 | Apr-15 | May-03 | Jun-15 | Jul-15 | Aug-15 | Sep-15 | Oct-15 | Nov-15 | Dec-15 | **Total 2015** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| # Service Installations | 51 | 16 | 25 | 17 | 23 | 29 | 20 | 18 | 21 | 28 | 25 | 49 | **322** |
| Avg days to complete from customer and site ready | 6.6 | 10.1 | 9.2 | 5.4 | 7.6 | 8.4 | 3.3 | 6.6 | 8.5 | 5.9 | 7.6 | 8.9 | **7.3** |

| | | January | February | March | April | May | June | July | August | September | October | November | December | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | All **Residential** Calls offered to Agents | 88,109 | 79,677 | 92,643 | 106,676 | 110,453 | 124,054 | 149,229 | 121,021 | 111,896 | 104,098 | 86,884 | 86,003 | 1,260,743 |
| 2 | All **BSC** Calls Offered to Agents | 3,784 | 3,529 | 3,861 | 3,873 | 3,556 | 3,886 | 3,873 | 3,841 | 3,956 | 4,022 | 3,342 | 3,618 | 45,141 |
| 3 | All **Credit** Calls Offered to Agents | 18,439 | 17,710 | 24,173 | 36,766 | 29,164 | 26,097 | 25,499 | 28,942 | 34,912 | 24,529 | 16,898 | 14,575 | 297,704 |
| 4 | All **PAR** Calls Offered to Agents | 3,491 | 2,769 | 3,656 | 7,006 | 6,332 | 6,135 | 5,944 | 5,260 | 5,336 | 3,992 | 3,274 | 3,044 | 56,239 |
| 5 | All Calls Offered to Agents | 113,823 | 103,685 | 124,333 | 154,321 | 149,505 | 160,172 | 184,545 | 159,064 | 156,100 | 136,641 | 110,398 | 107,240 | 1,659,827 |
| 6 | All Calls Excluding Credit and PAR | 91,893 | 83,206 | 96,504 | 110,549 | 114,009 | 127,940 | 153,102 | 124,862 | 115,852 | 108,120 | 90,226 | 89,621 | 1,305,884 |
| 7 | All **Residential** Calls Answered by Agents within 20 seconds | 69,136 | 63,908 | 73,557 | 84,861 | 86,503 | 92,749 | 100,034 | 90,032 | 86,330 | 79,242 | 65,611 | 65,777 | 957,740 |
| 8 | All **BSC** Calls Answered by Agents within 20 seconds | 2,591 | 2,814 | 3,057 | 3,306 | 3,148 | 3,447 | 3,277 | 2,919 | 2,850 | 3,276 | 2,732 | 3,157 | 36,574 |
| 9 | All **Credit** Calls Answered by Agents within 20 seconds | 16,159 | 15,541 | 20,558 | 30,884 | 24,855 | 22,971 | 22,573 | 25,592 | 28,161 | 21,664 | 15,266 | 13,362 | 257,586 |
| 10 | All **PAR** Calls Answered by Agents within 20 seconds | 2,975 | 2,425 | 3,193 | 6,433 | 5,405 | 5,265 | 4,987 | 4,410 | 4,454 | 3,393 | 2,812 | 2,689 | 48,441 |
| 11 | All Calls Answered by Agents within 20 seconds | 90,861 | 84,688 | 100,365 | 125,484 | 119,911 | 124,432 | 130,871 | 122,953 | 121,795 | 107,575 | 86,421 | 84,985 | 1,300,341 |
| 12 | All Calls Answered by Agents within 20 seconds Excluding Credit and PAR | 71,727 | 66,722 | 76,614 | 88,167 | 89,651 | 96,196 | 103,311 | 92,951 | 89,180 | 82,518 | 68,343 | 68,934 | 994,314 |
| 13 | Non-Billing and Outage Calls Completed in IVR | 13,099 | 12,818 | 13,738 | 15,324 | 15,181 | 15,812 | 25,806 | 17,656 | 18,789 | 17,978 | 15,036 | 15,977 | 197,214 |
| 14 | Billing Calls Handled by IVR | 140,278 | 135,948 | 151,537 | 151,879 | 144,359 | 143,909 | 149,200 | 149,592 | 149,175 | 147,764 | 129,943 | 131,077 | 1,724,661 |
| 15 | Outage Calls Handled by IVR | 14,863 | 14,466 | 18,980 | 25,540 | 25,532 | 32,956 | 121,077 | 31,914 | 20,592 | 20,150 | 21,565 | 11,512 | 359,147 |
| 16 | Outage Calls Offered to Agents | 6,631 | 5,436 | 8,412 | 10,642 | 10,121 | 12,506 | 28,109 | 9,957 | 6,772 | 6,424 | 6,151 | 4,323 | 115,484 |
| 17 | Total Outage Calls | 21,494 | 19,902 | 27,392 | 36,182 | 35,653 | 45,462 | 149,186 | 41,871 | 27,364 | 26,574 | 27,716 | 15,835 | 474,631 |
| 18 | All Calls Offered to Agents + Outage Calls Handled by IVR | 128,686 | 118,151 | 143,313 | 179,861 | 175,037 | 193,128 | 305,622 | 190,978 | 176,692 | 156,791 | 131,963 | 118,752 | 2,018,974 |
| 19 | All Calls Answered by Agents within 20 seconds + Outage Calls Handled by IVR | 105,724 | 99,154 | 119,345 | 151,024 | 145,443 | 157,388 | 251,948 | 154,867 | 142,387 | 127,725 | 107,986 | 96,497 | 1,659,488 |
| 20 | Res and BSC Calls Offered to Agents + Outage Calls Handled by IVR | 106,756 | 97,672 | 115,484 | 136,089 | 139,541 | 160,896 | 274,179 | 156,776 | 136,444 | 128,270 | 111,791 | 101,133 | 1,665,031 |
| 21 | Res and BSC Calls Answered by Agents within 20 seconds + Outage Calls Handled by IVR | 86,590 | 81,188 | 95,594 | 113,707 | 115,183 | 129,152 | 224,388 | 124,865 | 109,772 | 102,668 | 89,908 | 80,446 | 1,353,461 |
| 22 | All Calls Offered to Agents + Outage Calls Handled by IVR + Billing Calls Handled by IVR | 268,964 | 254,099 | 294,850 | 331,740 | 319,396 | 337,037 | 454,822 | 340,570 | 325,867 | 304,555 | 261,906 | 249,829 | 3,743,635 |
| 23 | All Calls Answered by Agents within 20 seconds + Outage Calls Handled by IVR + Billing Calls Handled by IVR | 246,002 | 235,102 | 270,882 | 302,903 | 289,802 | 301,297 | 401,148 | 304,459 | 291,562 | 275,489 | 237,929 | 227,574 | 3,384,149 |

| | | January | February | March | April | May | June | July | August | September | October | November | December | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | Res and BSC Calls Offered to Agents + Outage Calls Handled by IVR + Billing Calls Handled by IVR | 247,034 | 233,620 | 267,021 | 287,968 | 283,900 | 304,805 | 423,379 | 306,368 | 285,619 | 276,034 | 241,734 | 232,210 | 3,389,692 |
| 25 | Res and BSC Calls Answered by Agents within 20 seconds + Outage Calls Handled by IVR + Billing Calls Handled by IVR | 226,868 | 217,136 | 247,131 | 265,586 | 259,542 | 273,061 | 373,588 | 274,457 | 258,947 | 250,432 | 219,851 | 211,523 | 3,078,122 |
| 26 | Service Level All Calls (including calls handled by IVR) | **91.9%** | **92.9%** | **92.2%** | **91.7%** | **91.2%** | **89.9%** | **88.8%** | **89.9%** | **90.0%** | **91.0%** | **91.3%** | **91.6%** | **90.9%** |
| 27 | Service Level All Calls (not including billing calls handled by IVR) | **82.2%** | **83.9%** | **83.3%** | **84.0%** | **83.1%** | **81.5%** | **82.4%** | **81.1%** | **80.6%** | **81.5%** | **81.8%** | **81.3%** | **82.2%** |
| 28 | Service Level Res and BSC Calls (including outage and billing calls handled by IVR) | **91.8%** | **92.9%** | **92.6%** | **92.2%** | **91.4%** | **89.6%** | **88.2%** | **89.6%** | **90.7%** | **90.7%** | **90.9%** | **91.1%** | **90.8%** |
| 29 | Service Level Res and BSC Calls (not including billing calls handled by IVR) | **81.1%** | **83.1%** | **82.8%** | **83.6%** | **82.5%** | **80.3%** | **81.8%** | **79.6%** | **80.5%** | **80.0%** | **80.4%** | **79.5%** | **81.3%** |
| 30 | Service Level (agent only) | **79.8%** | **81.7%** | **80.7%** | **81.3%** | **80.2%** | **77.7%** | **70.9%** | **77.3%** | **78.0%** | **78.7%** | **78.3%** | **79.2%** | **78.3%** |
| 31 | ASA (Agent only Residential, BSC, Credit and PAR) | 15 | 13 | 14 | 14 | 15 | 18 | 34 | 17 | 15 | 15 | 18 | 15 | 18 |
| | ASA Residential | 16 | 14 | 15 | 16 | 16 | 21 | 41 | 20 | 16 | 16 | 21 | 18 | 20 |
| | ASA BSC | 36 | 22 | 19 | 12 | 11 | 10 | 15 | 25 | 28 | 20 | 18 | 12 | 19 |
| | ASA Credit | 8 | 8 | 11 | 12 | 10 | 9 | 9 | 8 | 12 | 8 | 7 | 6 | 9 |
| | ASA PAR | 15 | 11 | 12 | 8 | 13 | 13 | 15 | 15 | 15 | 14 | 13 | 11 | 13 |

Notes:

| | |
|---|---|
| 29 | The service level formula is: (All Calls Answered by Agents within 20 seconds + Outage Calls Handled by IVR) / (All Calls Offered to Agents + Outage Calls Handled by IVR) |
| 26 | The service level formula is: (All Calls Answered by Agents within 20 seconds + Outage Calls Handled by IVR + Billing Calls Handled by IVR) + (Res and BSC Calls Answered by Agents within 20 seconds + Outage Calls Handled by IVR) / (All Calls Offered to Agents + Outage Calls Handled by IVR + Billing Calls Handled by IVR) + (Res and BSC Calls Answered by Agents within 20 seconds + Outage Calls Handled by IVR) |
| | Agent call volumes includes calls offered and handled at the Residential call centers (Amarillo, Centre Pointe and Sky Park), at the Business call center at Sky Park, at the Credit call centers at Amarillo and Centre |
| | Data on calls to agents is gathered from the phone switch (Avaya) based on skills. |
| | Data on IVR calls is gathered from the IVR reporting tool (Voice Portal). |

***Minnesota Public Utilities Commission***
***Consumer Affairs Office***
***121-7th Place East***
***St. Paul, MN 55101-2147***

**7826.2000 REPORTING CUSTOMER COMPLAINTS**
For the period of January 01, 2015 to December 31, 2015

**Name of Utility:** Northern States Power Company
**Address:** 3115 Centre Pointe Drive, Roseville, MN 55113
**Prepared by:** Philip Johnson, Customer Advocate Analyst. Customer Care 715-737-3033

**A. The Number of Complaints Received**

| | | Month | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CustomerType | Source | Jan-15 | Feb-15 | Mar-15 | Apr-15 | May-15 | Jun-15 | Jul-15 | Aug-15 | Sep-15 | Oct-15 | Nov-15 | Dec-15 | 2015 |
| Commercial | Commission | 0 | 1 | 1 | 1 | 2 | 0 | 1 | 1 | 1 | 2 | 0 | 0 | 10 |
| | Direct Customer Contact | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | Informational | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| | Internal | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 5 |
| | OAG | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 2 | 0 | 0 | 7 |
| | Officer | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 3 |
| | Referral | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| Commercial Total | | 2 | 2 | 3 | 2 | 4 | 1 | 3 | 2 | 2 | 4 | 4 | 0 | 29 |
| Government | Internal | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Government Total | | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Residential | BBB | 1 | 3 | 3 | 2 | 3 | 8 | 2 | 4 | 6 | 3 | 0 | 4 | 39 |
| | Commission | 6 | 7 | 8 | 8 | 13 | 21 | 13 | 12 | 10 | 9 | 4 | 4 | 115 |
| | Commission/Internal | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | Commission/OAG | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 3 |
| | Direct Customer Contact | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| | Informational | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 6 |
| | Internal | 13 | 5 | 15 | 21 | 14 | 25 | 11 | 13 | 18 | 11 | 4 | 2 | 152 |
| | OAG | 14 | 7 | 11 | 29 | 36 | 43 | 36 | 54 | 77 | 25 | 12 | 14 | 358 |
| | OAG/Officer | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| | Officer | 3 | 3 | 1 | 3 | 0 | 2 | 5 | 1 | 1 | 2 | 2 | 1 | 24 |
| | Referral | 1 | 1 | 2 | 8 | 10 | 12 | 7 | 7 | 6 | 1 | 1 | 0 | 56 |
| | Repeat Customer | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Residential Total | | 38 | 26 | 40 | 75 | 77 | 113 | 76 | 92 | 120 | 53 | 23 | 26 | 759 |
| **Grand Total** | | **40** | **28** | **43** | **77** | **81** | **115** | **79** | **94** | **122** | **57** | **27** | **26** | **789** |

***Minnesota Public Utilities Commission***
***Consumer Affairs Office***
***121-7th Place East***
***St. Paul, MN 55101-2147***

**7826.2000 REPORTING CUSTOMER COMPLAINTS**
For the period of January 01, 2015 to December 31, 2015

| | |
|---|---|
| **Name of Utility:** | Northern States Power Company |
| **Address:** | 3115 Centre Pointe Drive, Roseville, MN 55113 |
| **Prepared by:** | Philip Johnson, Customer Advocate Analyst. Customer Care 715-737-3033 |

**B. The Number and Percentage of Complaints Alleging:**

**Month**

| CustomerType | MPUC | Jan-15 | Feb-15 | Mar-15 | Apr-15 | May-15 | Jun-15 | Jul-15 | Aug-15 | Sep-15 | Oct-15 | Nov-15 | Dec-15 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Commercial | Billing Error | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 |
| | High Bill | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| | Inadequate Service | 1 | 1 | 2 | 1 | 3 | 0 | 3 | 0 | 0 | 3 | 3 | 0 | 17 |
| | Serv Rest Interval | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 |
| | Service Ext Interval | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 4 |
| | Wrongful Disconnect | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 2 |
| Commercial Total | | 2 | 2 | 3 | 2 | 4 | 1 | 3 | 2 | 2 | 4 | 4 | 0 | 29 |
| Industrial Total | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Residential | Billing Error | 7 | 6 | 10 | 8 | 8 | 8 | 13 | 9 | 11 | 9 | 6 | 8 | 103 |
| | High Bill | 1 | 2 | 1 | 0 | 1 | 3 | 0 | 4 | 1 | 2 | 1 | 1 | 17 |
| | Inadequate Service | 20 | 6 | 20 | 52 | 42 | 62 | 26 | 51 | 60 | 29 | 13 | 15 | 396 |
| | Inaccurate Metering | 3 | 4 | 8 | 6 | 3 | 4 | 5 | 1 | 4 | 1 | 1 | 1 | 41 |
| | Serv Rest Interval | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 1 | 2 | 3 | 1 | 0 | 13 |
| | Service Ext Interval | 0 | 2 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 6 |
| | Wrongful Disconnect | 7 | 6 | 1 | 8 | 22 | 33 | 29 | 25 | 42 | 8 | 1 | 1 | 183 |
| Residential Total | | 38 | 26 | 40 | 75 | 77 | 113 | 76 | 92 | 120 | 53 | 23 | 26 | 759 |
| Government | Inadequate Service | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Government Total | | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Totals | Billing Error | 7 | 6 | 11 | 8 | 8 | 8 | 13 | 9 | 11 | 9 | 7 | 8 | 105 |
| | High Bill | 1 | 2 | 1 | 0 | 2 | 3 | 0 | 5 | 1 | 2 | 1 | 1 | 19 |
| | Inadequate Service | 21 | 7 | 22 | 53 | 45 | 63 | 29 | 51 | 60 | 32 | 16 | 15 | 414 |
| | Inaccurate Metering | 3 | 4 | 8 | 6 | 3 | 4 | 5 | 1 | 4 | 1 | 1 | 1 | 41 |
| | Serv Rest Interval | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 2 | 3 | 3 | 1 | 0 | 15 |
| | Service Ext Interval | 1 | 3 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 10 |
| | Wrongful Disconnect | 7 | 6 | 1 | 8 | 22 | 34 | 29 | 25 | 43 | 8 | 1 | 1 | 185 |
| **Grand Total** | | **40** | **28** | **43** | **77** | **81** | **115** | **79** | **94** | **122** | **57** | **27** | **26** | **789** |

**Percentage**

| CustomerType | Complaint Type | Jan-15 | Feb-15 | Mar-15 | Apr-15 | May-15 | Jun-15 | Jul-15 | Aug-15 | Sep-15 | Oct-15 | Nov-15 | Dec-15 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Commercial | Billing Error | 0.0% | 0.0% | 33.3% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 25.0% | 0.0% | 6.9% |
| | High Bill | 0.0% | 0.0% | 0.0% | 0.0% | 25.0% | 0.0% | 0.0% | 50.0% | 0.0% | 0.0% | 0.0% | 0.0% | 6.9% |
| | Inadequate Service | 50.0% | 50.0% | 66.7% | 50.0% | 75.0% | 0.0% | 100.0% | 0.0% | 0.0% | 75.0% | 75.0% | 0.0% | 58.6% |
| | Serv Rest Interval | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 50.0% | 50.0% | 0.0% | 0.0% | 0.0% | 6.9% |
| | Service Ext Interval | 50.0% | 50.0% | 0.0% | 50.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 25.0% | 0.0% | 0.0% | 13.8% |
| | Wrongful Disconnect | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | 50.0% | 0.0% | 0.0% | 0.0% | 6.9% |
| Industrial | | 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% |
| Residential | Billing Error | 18.4% | 23.1% | 25.0% | 10.7% | 10.4% | 7.1% | 17.1% | 9.8% | 9.2% | 17.0% | 26.1% | 30.8% | 13.6% |
| | High Bill | 2.6% | 7.7% | 2.5% | 0.0% | 1.3% | 2.7% | 0.0% | 4.3% | 0.8% | 3.8% | 4.3% | 3.8% | 2.2% |
| | Inadequate Service | 52.6% | 23.1% | 50.0% | 69.3% | 54.5% | 54.9% | 34.2% | 55.4% | 50.0% | 54.7% | 56.5% | 57.7% | 52.2% |
| | Inaccurate Metering | 7.9% | 15.4% | 20.0% | 8.0% | 3.9% | 3.5% | 6.6% | 1.1% | 3.3% | 1.9% | 4.3% | 3.8% | 5.4% |
| | Serv Rest Interval | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 2.7% | 3.9% | 1.1% | 1.7% | 5.7% | 4.3% | 0.0% | 1.7% |
| | Service Ext Interval | 0.0% | 7.7% | 0.0% | 1.3% | 1.3% | 0.0% | 0.0% | 1.1% | 0.0% | 1.9% | 0.0% | 0.0% | 0.8% |
| | Wrongful Disconnect | 18.4% | 23.1% | 2.5% | 10.7% | 28.6% | 29.2% | 38.2% | 27.2% | 35.0% | 15.1% | 4.3% | 3.8% | 24.1% |
| Total | Billing Error | 17.5% | 21.4% | 25.6% | 10.4% | 9.9% | 7.0% | 16.5% | 9.6% | 9.0% | 15.8% | 25.9% | 30.8% | 13.3% |
| | High Bill | 2.5% | 7.1% | 2.3% | 0.0% | 2.5% | 2.6% | 0.0% | 5.3% | 0.8% | 3.5% | 3.7% | 3.8% | 2.4% |
| | Inadequate Service | 52.5% | 25.0% | 51.2% | 68.8% | 55.6% | 54.8% | 36.7% | 54.3% | 49.2% | 56.1% | 59.3% | 57.7% | 52.5% |
| | Inaccurate Metering | 7.5% | 14.3% | 18.6% | 7.8% | 3.7% | 3.5% | 6.3% | 1.1% | 3.3% | 1.8% | 3.7% | 3.8% | 5.2% |
| | Serv Rest Interval | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 2.6% | 3.8% | 2.1% | 2.5% | 5.3% | 3.7% | 0.0% | 1.9% |
| | Service Ext Interval | 2.5% | 10.7% | 0.0% | 2.6% | 1.2% | 0.0% | 0.0% | 1.1% | 0.0% | 3.5% | 0.0% | 0.0% | 1.3% |
| | Wrongful Disconnect | 17.5% | 21.4% | 2.3% | 10.4% | 27.2% | 29.6% | 36.7% | 26.6% | 35.2% | 14.0% | 3.7% | 3.8% | 23.4% |

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For the period of January 01, 2015 to December 31, 2015

| | |
|---|---|
| **Name of Utility:** | Northern States Power Company |
| **Address:** | 3115 Centre Pointe Drive, Roseville, MN 55113 |
| **Prepared by:** | Philip Johnson, Customer Advocate Analyst. Customer Care 715-737-3033 |

**C. The Number and Percentage of Complaints Resolved upon:**

| | | Month | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CustomerType | DTR Status | Jan-15 | Feb-15 | Mar-15 | Apr-15 | May-15 | Jun-15 | Jul-15 | Aug-15 | Sep-15 | Oct-15 | Nov-15 | Dec-15 | 2015 |
| Commercial | Immediate | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| | 10 Days or Less | 2 | 2 | 3 | 2 | 3 | 1 | 2 | 2 | 2 | 4 | 2 | 0 | 25 |
| | Greater Than 10 Days | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 3 |
| Commercial Total | | 2 | 2 | 3 | 2 | 4 | 1 | 3 | 2 | 2 | 4 | 4 | 0 | 29 |
| Industrial | 10 Days or Less | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Industrial Total | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Residential | Immediate | 7 | 1 | 4 | 9 | 15 | 14 | 8 | 19 | 23 | 6 | 2 | 4 | 112 |
| | 10 Days or Less | 31 | 22 | 34 | 62 | 57 | 98 | 64 | 72 | 92 | 45 | 21 | 22 | 620 |
| | Greater Than 10 Days | 0 | 3 | 2 | 4 | 5 | 1 | 4 | 1 | 5 | 2 | 0 | 0 | 27 |
| Residential Total | | 38 | 26 | 40 | 75 | 77 | 113 | 76 | 92 | 120 | 53 | 23 | 26 | 759 |
| Government | 10 Days or Less | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Government Total | | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Grand Total | Immediate | 7 | 1 | 4 | 9 | 15 | 14 | 9 | 19 | 23 | 6 | 2 | 4 | 113 |
| | 10 Days or Less | 33 | 24 | 37 | 64 | 60 | 100 | 66 | 74 | 94 | 49 | 23 | 22 | 646 |
| | Greater Than 10 Days | 0 | 3 | 2 | 4 | 6 | 1 | 4 | 1 | 5 | 2 | 2 | 0 | 30 |
| **Grand Total** | | **40** | **28** | **43** | **77** | **81** | **115** | **79** | **94** | **122** | **57** | **27** | **26** | **789** |
| | | | | | | | | | | | | | | |
| Commercial | Immediate | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 33.3% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 3.4% |
| | 10 Days or Less | 100.0% | 100.0% | 100.0% | 100.0% | 75.0% | 100.0% | 66.7% | 100.0% | 100.0% | 100.0% | 50.0% | 0.0% | 86.2% |
| | Greater Than 10 Days | 0.0% | 0.0% | 0.0% | 0.0% | 25.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 50.0% | 0.0% | 10.3% |
| | | | | | | | | | | | | | | |
| Industrial | Greater Than 10 Days | 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% |
| | | | | | | | | | | | | | | |
| Residential | Immediate | 18.4% | 3.8% | 10.0% | 12.0% | 19.5% | 12.4% | 10.5% | 20.7% | 19.2% | 11.3% | 8.7% | 15.4% | 14.8% |
| | 10 Days or Less | 81.6% | 84.6% | 85.0% | 82.7% | 74.0% | 86.7% | 84.2% | 78.3% | 76.7% | 84.9% | 91.3% | 84.6% | 81.7% |
| | Greater Than 10 Days | 0.0% | 11.5% | 5.0% | 5.3% | 6.5% | 0.9% | 5.3% | 1.1% | 4.2% | 3.8% | 0.0% | 0.0% | 3.6% |
| | | | | | | | | | | | | | | |
| Government | 10 Days or Less | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% |
| | | | | | | | | | | | | | | |
| Grand Total | Immediate | 17.5% | 3.6% | 9.3% | 11.7% | 18.5% | 12.2% | 11.4% | 20.2% | 18.9% | 10.5% | 7.4% | 15.4% | 14.3% |
| | 10 Days or Less | 82.5% | 85.7% | 86.0% | 83.1% | 74.1% | 87.0% | 83.5% | 78.7% | 77.0% | 86.0% | 85.2% | 84.6% | 81.9% |
| | Greater Than 10 Days | 0.0% | 10.7% | 4.7% | 5.2% | 7.4% | 0.9% | 5.1% | 1.1% | 4.1% | 3.5% | 7.4% | 0.0% | 3.8% |

**D. The Number and Percentage of Complaints Resolved by taking the following actions:**

| | | Month | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CustomerType | MN_Action | Jan-15 | Feb-15 | Mar-15 | Apr-15 | May-15 | Jun-15 | Jul-15 | Aug-15 | Sep-15 | Oct-15 | Nov-15 | Dec-15 | 2015 |
| Commercial | Action not in Control of Utility | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 3 |
| | Refuse Action Cust Requested | 0 | 0 | 2 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 6 |
| | Take Action Cust and Utility Agree Upon | 0 | 1 | 1 | 1 | 2 | 0 | 1 | 1 | 2 | 3 | 1 | 0 | 13 |
| | Take Action Cust Request | 2 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 7 |
| Commercial Total | | 2 | 2 | 3 | 2 | 4 | 1 | 3 | 2 | 2 | 4 | 4 | 0 | 29 |
| Industrial | Refuse Action Cust Requested | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Take Action Cust Request | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Industrial Total | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Residential | Action not in Control of Utility | 2 | 1 | 1 | 2 | 0 | 11 | 5 | 2 | 2 | 9 | 2 | 4 | 41 |
| | Refuse Action Cust Requested | 8 | 6 | 15 | 13 | 10 | 21 | 15 | 12 | 21 | 8 | 3 | 5 | 137 |
| | Take Action Cust and Utility Agree Upon | 17 | 7 | 6 | 39 | 41 | 46 | 29 | 51 | 69 | 26 | 11 | 13 | 355 |
| | Take Action Cust Request | 11 | 12 | 18 | 21 | 26 | 35 | 27 | 27 | 28 | 10 | 7 | 4 | 226 |
| Residential Total | | 38 | 26 | 40 | 75 | 77 | 113 | 76 | 92 | 120 | 53 | 23 | 26 | 759 |
| Government | Take Action Cust and Utility Agree Upon | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Government Total | | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Grand Total | Action not in Control of Utility | 2 | 1 | 1 | 2 | 1 | 12 | 5 | 2 | 2 | 10 | 2 | 4 | 44 |
| | Refuse Action Cust Requested | 8 | 6 | 17 | 14 | 11 | 21 | 16 | 12 | 21 | 8 | 4 | 5 | 143 |
| | Take Action Cust and Utility Agree Upon | 17 | 8 | 7 | 40 | 43 | 47 | 30 | 52 | 71 | 29 | 12 | 13 | 368 |
| | Take Action Cust Request | 13 | 13 | 18 | 21 | 26 | 35 | 28 | 28 | 28 | 10 | 9 | 4 | 233 |
| Grand Total | | **40** | **28** | **43** | **77** | **81** | **115** | **79** | **94** | **122** | **57** | **27** | **26** | **789** |

| | | Month | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CustomerType | MN_Action | Jan-15 | Feb-15 | Mar-15 | Apr-15 | May-15 | Jun-15 | Jul-15 | Aug-15 | Sep-15 | Oct-15 | Nov-15 | Dec-15 | 2015 |
| Commercial | Action Not In Control Of Utility | 0.0% | 0.0% | 0.0% | 0.0% | 25.0% | 100.0% | 0.0% | 0.0% | 0.0% | 25.0% | 0.0% | 0.0% | 10.3% |
| | Refuse Action Cust Requested | 0.0% | 0.0% | 66.7% | 50.0% | 25.0% | 0.0% | 33.3% | 0.0% | 0.0% | 0.0% | 25.0% | 0.0% | 20.7% |
| | Take Action Cust and Utility Agree Upon | 0.0% | 50.0% | 33.3% | 50.0% | 50.0% | 0.0% | 33.3% | 50.0% | 100.0% | 75.0% | 25.0% | 0.0% | 44.8% |
| | Take Action Cust Request | 100.0% | 50.0% | 0.0% | 0.0% | 0.0% | 0.0% | 33.3% | 50.0% | 0.0% | 0.0% | 50.0% | 0.0% | 24.1% |
| | | | | | | | | | | | | | | |
| Industrial | Refuse Action Cust Requested | 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% |
| | Take Action Cust Request | 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% |
| | | | | | | | | | | | | | | |
| Residential | Action Not In Control Of Utility | 5.3% | 3.8% | 2.5% | 2.7% | 0.0% | 9.7% | 6.6% | 2.2% | 1.7% | 17.0% | 8.7% | 15.4% | 5.4% |
| | Refuse Action Cust Requested | 21.1% | 23.1% | 37.5% | 17.3% | 13.0% | 18.6% | 19.7% | 13.0% | 17.5% | 15.1% | 13.0% | 19.2% | 18.1% |
| | Take Action Cust and Utility Agree Upon | 44.7% | 26.9% | 15.0% | 52.0% | 53.2% | 40.7% | 38.2% | 55.4% | 57.5% | 49.1% | 47.8% | 50.0% | 46.8% |
| | Take Action Cust Request | 28.9% | 46.2% | 45.0% | 28.0% | 33.8% | 31.0% | 35.5% | 29.3% | 23.3% | 18.9% | 30.4% | 15.4% | 29.8% |
| | | | | | | | | | | | | | | |
| Government | Take Action Cust Request | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% |
| | | | | | | | | | | | | | | |
| Total | Action Not In Control Of Utility | 5.0% | 3.6% | 2.3% | 2.6% | 1.2% | 10.4% | 6.3% | 2.1% | 1.6% | 17.5% | 7.4% | 15.4% | 5.6% |
| | Refuse Action Cust Requested | 20.0% | 21.4% | 39.5% | 18.2% | 13.6% | 18.3% | 20.3% | 12.8% | 17.2% | 14.0% | 14.8% | 19.2% | 18.1% |
| | Take Action Cust and Utility Agree Upon | 42.5% | 28.6% | 16.3% | 51.9% | 53.1% | 40.9% | 38.0% | 55.3% | 58.2% | 50.9% | 44.4% | 50.0% | 46.8% |
| | Take Action Cust Request | 32.5% | 46.4% | 41.9% | 27.3% | 32.1% | 30.4% | 35.4% | 29.8% | 23.0% | 17.5% | 33.3% | 15.4% | 29.5% |

***Minnesota Public Utilities Commission***
***Consumer Affairs Office***
***121-7th Place East***
***St. Paul, MN 55101-2147***

**7826.2000 REPORTING CUSTOMER COMPLAINTS**
For the period of January 01, 2015 to December 31, 2015

| | |
|---|---|
| **Name of Utility:** | Northern States Power Company |
| **Address:** | 3115 Centre Pointe Drive, Roseville, MN 55113 |
| **Prepared by:** | Philip Johnson, Customer Advocate Analyst. Customer Care 715-737-3033 |

**E. The Number of Complaints fowarded to the Utility by the Commission's Consumer Affairs Office for Further Investigation and Action**

| | | Month | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CustomerType | Source | Jan-15 | Feb-15 | Mar-15 | Apr-15 | May-15 | Jun-15 | Jul-15 | Aug-15 | Sep-15 | Oct-15 | Nov-15 | Dec-15 | 2015 |
| Commercial | Commission | 0 | 1 | 1 | 1 | 2 | 0 | 1 | 1 | 1 | 2 | 0 | 0 | 10 |
| Commercial Total | | **0** | **1** | **1** | **1** | **2** | **0** | **1** | **1** | **1** | **2** | **0** | **0** | **10** |
| Industrial Total | | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| Residential | Commission | 6 | 7 | 8 | 8 | 13 | 21 | 13 | 12 | 10 | 9 | 4 | 5 | 116 |
| | Commission/Internal | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | Commission/OAG | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| Residential Total | | **6** | **7** | **8** | **8** | **13** | **22** | **14** | **13** | **10** | **9** | **4** | **5** | **119** |
| Government | Commission | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | 0 |
| Government Total | | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| **Grand Total** | | **6** | **8** | **9** | **9** | **15** | **22** | **15** | **14** | **11** | **11** | **4** | **5** | **129** |

**Xcel Energy**
**Customer Complaint Report**
**January, 2015**

**Turnaround Days for Closing a Complaint**

| | Agree | Compromise | Demonstrate | Refuse | Total | % | Initial Inquiry | within 10 days | Longer than 10 days |
|---|---|---|---|---|---|---|---|---|---|
| **Commercial** | | | | | | | | | |
| Billing errors | 2276 | 8 | 13 | 0 | 2,297 | 78.08% | 2289 | 8 | 0 |
| Inaccurate Metering | 3 | 1 | 0 | 0 | 4 | 0.14% | 4 | 0 | 0 |
| Wrongful Disconnect | 141 | 2 | 0 | 1 | 144 | 4.89% | 142 | 2 | 0 |
| High Bill | 64 | 0 | 0 | 0 | 64 | 2.18% | 64 | 0 | 0 |
| Inadequate Service | 249 | 3 | 2 | 0 | 254 | 8.63% | 254 | 0 | 0 |
| Service Extension | 2 | 0 | 0 | 0 | 2 | 0.07% | 2 | 0 | 0 |
| Service Restoration | 172 | 3 | 2 | 0 | 177 | 6.02% | 176 | 1 | 0 |
| Other | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Total Commercial | 2,907 | 17 | 17 | 1 | 2,942 | | 2,931 | 11 | 0 |
| Total Commercial Percentage | 98.81% | 0.58% | 0.58% | 0.03% | | | | | |
| **Industrial** | | | | | | | | | |
| Billing errors | 290 | 1 | 0 | 0 | 291 | 77.39% | 289 | 2 | 0 |
| Inaccurate Metering | 3 | 0 | 0 | 0 | 3 | 0.80% | 3 | 0 | 0 |
| Wrongful Disconnect | 5 | 1 | 0 | 0 | 6 | 1.60% | 6 | 0 | 0 |
| High Bill | 1 | 0 | 0 | 0 | 1 | 0.27% | 1 | 0 | 0 |
| Inadequate Service | 30 | 0 | 1 | 0 | 31 | 8.24% | 30 | 1 | 0 |
| Service Extension | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Service Restoration | 41 | 1 | 2 | 0 | 44 | 11.70% | 44 | 0 | 0 |
| Other | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Total Industrial | 370 | 3 | 3 | 0 | 376 | | 373 | 3 | 0 |
| Total Industrial Percentage | 98.40% | 0.80% | 0.80% | 0.00% | | | | | |
| **Residential** | | | | | | | | | |
| Billing errors | 28392 | 430 | 428 | 17 | 29,267 | 51.76% | 29248 | 17 | 0 |
| Inaccurate Metering | 45 | 0 | 1 | 0 | 46 | 0.08% | 46 | 0 | 0 |
| Wrongful Disconnect | 7380 | 166 | 162 | 20 | 7,728 | 13.67% | 7710 | 2 | 0 |
| High Bill | 1630 | 40 | 50 | 1 | 1,721 | 3.04% | 1718 | 3 | 0 |
| Inadequate Service | 15795 | 344 | 398 | 12 | 16,549 | 29.27% | 16541 | 7 | 0 |
| Service Extension | 10 | 0 | 0 | 0 | 10 | 0.02% | 10 | 0 | 0 |
| Service Restoration | 1160 | 29 | 32 | 0 | 1,221 | 2.16% | 1221 | 0 | 0 |
| Other | 6 | 0 | 0 | 0 | 6 | 0.01% | 2 | 4 | 0 |
| Total Residential | 54,418 | 1,009 | 1,071 | 50 | 56,548 | | 56,496 | 33 | 0 |
| Total Residential Percentage | 96.23% | 1.78% | 1.89% | 0.09% | | | | | |
| **Total State of Minnesota** | **57,695** | **1,029** | **1,091** | **51** | **59,866** | | **59,800** | **47** | **0** |
| **Total ST of MN Percentage** | **96.37%** | **1.72%** | **1.82%** | **0.09%** | | | | | |

**Xcel Energy**
**Customer Complaint Report**
**February, 2015**

**Turnaround Days for Closing a Complaint**

| | Agree | Compromise | Demonstrate | Refuse | Total | % | Initial Inquiry | within 10 days | Longer than 10 days |
|---|---|---|---|---|---|---|---|---|---|
| **Commercial** | | | | | | | | | |
| Billing errors | 2162 | 13 | 12 | 0 | 2,187 | 79.35% | 2180 | 7 | 0 |
| Inaccurate Metering | 6 | 0 | 0 | 0 | 6 | 0.22% | 6 | 0 | 0 |
| Wrongful Disconnect | 129 | 4 | 3 | 0 | 136 | 4.93% | 136 | 0 | 0 |
| High Bill | 54 | 0 | 0 | 0 | 54 | 1.96% | 53 | 1 | 0 |
| Inadequate Service | 231 | 2 | 0 | 0 | 233 | 8.45% | 232 | 1 | 0 |
| Service Extension | 1 | 0 | 0 | 0 | 1 | 0.04% | 1 | 0 | 0 |
| Service Restoration | 137 | 2 | 0 | 0 | 139 | 5.04% | 139 | 0 | 0 |
| Other | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Total Commercial | 2,720 | 21 | 15 | 0 | 2,756 | | 2,747 | 9 | 0 |
| Total Commercial Percent | 98.69% | 0.76% | 0.54% | 0.00% | | | | | |
| **Industrial** | | | | | | | | | |
| Billing errors | 224 | 0 | 0 | 1 | 225 | 85.55% | 223 | 2 | 0 |
| Inaccurate Metering | 1 | 0 | 0 | 0 | 1 | 0.38% | 0 | 0 | 1 |
| Wrongful Disconnect | 1 | 0 | 0 | 0 | 1 | 0.38% | 1 | 0 | 0 |
| High Bill | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Inadequate Service | 17 | 0 | 0 | 0 | 17 | 6.46% | 17 | 0 | 0 |
| Service Extension | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Service Restoration | 18 | 1 | 0 | 0 | 19 | 7.22% | 19 | 0 | 0 |
| Other | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Total Industrial | 261 | 1 | 0 | 1 | 263 | | 260 | 2 | 1 |
| Total Industrial Percentage | 99.24% | 0.38% | 0.00% | 0.38% | | | | | |
| **Residential** | | | | | | | | | |
| Billing errors | 26293 | 258 | 379 | 14 | 26,944 | 52.20% | 26923 | 19 | 2 |
| Inaccurate Metering | 32 | 1 | 2 | 0 | 35 | 0.07% | 35 | 0 | 0 |
| Wrongful Disconnect | 5937 | 186 | 122 | 7 | 6,252 | 12.11% | 6238 | 2 | 0 |
| High Bill | 858 | 13 | 25 | 1 | 897 | 1.74% | 896 | 0 | 1 |
| Inadequate Service | 15704 | 308 | 392 | 17 | 16,421 | 31.81% | 16415 | 5 | 0 |
| Service Extension | 12 | 0 | 2 | 0 | 14 | 0.03% | 14 | 0 | 0 |
| Service Restoration | 1023 | 8 | 22 | 0 | 1,053 | 2.04% | 1052 | 1 | 0 |
| Other | 1 | 0 | 0 | 0 | 1 | 0.00% | 1 | 0 | 0 |
| Total Residential | 49,860 | 774 | 944 | 39 | 51,617 | | 51,574 | 27 | 3 |
| Total Residential Percentage | 96.60% | 1.50% | 1.83% | 0.08% | | | | | |
| **Total State of Minnesota** | **52,841** | **796** | **959** | **40** | **54,636** | | **54,581** | **38** | **4** |
| **Total ST of MN Percentage** | **96.71%** | **1.46%** | **1.76%** | **0.07%** | | | | | |

**Xcel Energy**
**Customer Complaint Report**
**March, 2015**

**Turnaround Days for Closing a Complaint**

| | Agree | Compromise | Demonstrate | Refuse | Total | % | Initial Inquiry | within 10 days | Longer than 10 days |
|---|---|---|---|---|---|---|---|---|---|
| **Commercial** | | | | | | | | | |
| Billing errors | 2179 | 11 | 12 | 0 | 2,202 | 73.94% | 2189 | 12 | 1 |
| Inaccurate Metering | 5 | 0 | 0 | 0 | 5 | 0.17% | 5 | 0 | 0 |
| Wrongful Disconnect | 181 | 3 | 3 | 0 | 187 | 6.28% | 187 | 0 | 0 |
| High Bill | 35 | 0 | 1 | 0 | 36 | 1.21% | 36 | 0 | 0 |
| Inadequate Service | 256 | 2 | 0 | 0 | 258 | 8.66% | 257 | 1 | 0 |
| Service Extension | 1 | 0 | 0 | 0 | 1 | 0.03% | 1 | 0 | 0 |
| Service Restoration | 281 | 5 | 3 | 0 | 289 | 9.70% | 289 | 0 | 0 |
| Other | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Total Commercial | 2,938 | 21 | 19 | 0 | 2,978 | | 2,964 | 13 | 1 |
| Total Commercial Percent | 98.66% | 0.71% | 0.64% | 0.00% | | | | | |
| **Industrial** | | | | | | | | | |
| Billing errors | 228 | 0 | 0 | 1 | 229 | 68.98% | 227 | 2 | 0 |
| Inaccurate Metering | 1 | 0 | 0 | 0 | 1 | 0.30% | 1 | 0 | 0 |
| Wrongful Disconnect | 3 | 0 | 1 | 0 | 4 | 1.20% | 4 | 0 | 0 |
| High Bill | 5 | 0 | 0 | 0 | 5 | 1.51% | 4 | 1 | 0 |
| Inadequate Service | 29 | 0 | 0 | 0 | 29 | 8.73% | 29 | 0 | 0 |
| Service Extension | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Service Restoration | 63 | 1 | 0 | 0 | 64 | 19.28% | 64 | 0 | 0 |
| Other | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Total Industrial | 329 | 1 | 1 | 1 | 332 | | 329 | 3 | 0 |
| Total Industrial Percentage | 99.10% | 0.30% | 0.30% | 0.30% | | | | | |
| **Residential** | | | | | | | | | |
| Billing errors | 27901 | 204 | 322 | 11 | 28,438 | 47.34% | 28423 | 14 | 0 |
| Inaccurate Metering | 20 | 1 | 2 | 1 | 24 | 0.04% | 24 | 0 | 0 |
| Wrongful Disconnect | 7449 | 230 | 151 | 21 | 7,851 | 13.07% | 7845 | 3 | 0 |
| High Bill | 770 | 12 | 31 | 1 | 814 | 1.36% | 813 | 1 | 0 |
| Inadequate Service | 20508 | 305 | 378 | 24 | 21,215 | 35.32% | 21209 | 3 | 1 |
| Service Extension | 27 | 0 | 3 | 0 | 30 | 0.05% | 30 | 0 | 0 |
| Service Restoration | 1663 | 5 | 24 | 0 | 1,692 | 2.82% | 1692 | 0 | 0 |
| Other | 7 | 0 | 0 | 0 | 7 | 0.000117 | 4 | 3 | 0 |
| Total Residential | 58,345 | 757 | 911 | 58 | 60,071 | | 60,040 | 24 | 1 |
| Total Residential Percentage | 97.13% | 1.26% | 1.52% | 0.10% | | | | | |
| **Total State of Minnesota** | **61,612** | **779** | **931** | **59** | **63,381** | | **63,333** | **40** | **2** |
| **Total ST of MN Percentage** | **97.21%** | **1.23%** | **1.47%** | **0.09%** | | | | | |

**Xcel Energy**
**Customer Complaint Report**
**April, 2015**

**Turnaround Days for Closing a Complaint**

| | Agree | Compromise | Demonstrate | Refuse | Total | % | Initial Inquiry | within 10 days | Longer than 10 days |
|---|---|---|---|---|---|---|---|---|---|
| **Commercial** | | | | | | | | | |
| Billing errors | 2095 | 16 | 4 | 3 | 2,118 | 71.15% | 2116 | 1 | 1 |
| Inaccurate Metering | 3 | 0 | 0 | 0 | 3 | 0.10% | 3 | 0 | 0 |
| Wrongful Disconnect | 195 | 4 | 4 | 0 | 203 | 6.82% | 202 | 1 | 0 |
| High Bill | 23 | 1 | 0 | 0 | 24 | 0.81% | 24 | 0 | 0 |
| Inadequate Service | 262 | 5 | 3 | 0 | 270 | 9.07% | 269 | 1 | 0 |
| Service Extension | 1 | 1 | 0 | 0 | 2 | 0.07% | 2 | 0 | 0 |
| Service Restoration | 355 | 2 | 0 | 0 | 357 | 11.99% | 357 | 0 | 0 |
| Other | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Total Commercial | 2,934 | 29 | 11 | 3 | 2,977 | | 2,973 | 3 | 1 |
| Total Commercial Percent | 98.56% | 0.97% | 0.37% | 0.10% | | | | | |
| **Industrial** | | | | | | | | | |
| Billing errors | 243 | 2 | 2 | 0 | 247 | 68.23% | 246 | 1 | 0 |
| Inaccurate Metering | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Wrongful Disconnect | 8 | 0 | 0 | 0 | 8 | 2.21% | 8 | 0 | 0 |
| High Bill | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Inadequate Service | 27 | 0 | 0 | 0 | 27 | 7.46% | 27 | 0 | 0 |
| Service Extension | 1 | 0 | 0 | 0 | 1 | 0.28% | 1 | 0 | 0 |
| Service Restoration | 77 | 2 | 0 | 0 | 79 | 21.82% | 79 | 0 | 0 |
| Other | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Total Industrial | 356 | 4 | 2 | 0 | 362 | | 361 | 1 | 0 |
| Total Industrial Percentage | 98.34% | 1.10% | 0.55% | 0.00% | | | | | |
| **Residential** | | | | | | | | | |
| Billing errors | 28101 | 242 | 319 | 15 | 28,677 | 39.35% | 28661 | 15 | 1 |
| Inaccurate Metering | 13 | 0 | 0 | 0 | 13 | 0.02% | 13 | 0 | 0 |
| Wrongful Disconnect | 13174 | 472 | 415 | 49 | 14,110 | 19.36% | 14107 | 3 | 0 |
| High Bill | 378 | 7 | 15 | 0 | 400 | 0.55% | 399 | 1 | 0 |
| Inadequate Service | 26600 | 488 | 570 | 49 | 27,707 | 38.02% | 27692 | 15 | 0 |
| Service Extension | 16 | 0 | 4 | 0 | 20 | 0.03% | 20 | 0 | 0 |
| Service Restoration | 1893 | 24 | 25 | 1 | 1,943 | 2.67% | 1943 | 0 | 0 |
| Other | 1 | 0 | 0 | 0 | 1 | 0.00% | 0 | 1 | 0 |
| Total Residential | 70,176 | 1,233 | 1,348 | 114 | 72,871 | | 72,835 | 35 | 1 |
| Total Residential Percentage | 96.30% | 1.69% | 1.85% | 0.16% | | | | | |
| **Total State of Minnesota** | **73,466** | **1,266** | **1,361** | **117** | **76,210** | | **76,169** | **39** | **2** |
| **Total ST of MN Percentage** | **96.40%** | **1.66%** | **1.79%** | **0.15%** | | | | | |

**Xcel Energy**
**Customer Complaint Report**
**May, 2015**

**Turnaround Days for Closing a Complaint**

| | Agree | Compromise | Demonstrate | Refuse | Total | % | Initial Inquiry | within 10 days | Longer than 10 days |
|---|---|---|---|---|---|---|---|---|---|
| **Commercial** | | | | | | | | | |
| Billing errors | 1876 | 12 | 7 | 1 | 1,896 | 71.06% | 1890 | 5 | 1 |
| Inaccurate Metering | 3 | 0 | 0 | 0 | 3 | 0.11% | 2 | 1 | 0 |
| Wrongful Disconnect | 215 | 2 | 2 | 0 | 219 | 8.21% | 218 | 1 | 0 |
| High Bill | 14 | 0 | 0 | 0 | 14 | 0.52% | 14 | 0 | 0 |
| Inadequate Service | 222 | 5 | 1 | 1 | 229 | 8.58% | 229 | 0 | 0 |
| Service Extension | 0 | 1 | 0 | 0 | 1 | 0.04% | 1 | 0 | 0 |
| Service Restoration | 300 | 1 | 5 | 0 | 306 | 11.47% | 306 | 0 | 0 |
| Other | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Total Commercial | 2,630 | 21 | 15 | 2 | 2,668 | | 2,660 | 7 | 1 |
| Total Commercial Percent | 98.58% | 0.79% | 0.56% | 0.07% | | | | | |
| **Industrial** | | | | | | | | | |
| Billing errors | 196 | 0 | 0 | 0 | 196 | 58.68% | 194 | 2 | 0 |
| Inaccurate Metering | 5 | 0 | 0 | 0 | 5 | 1.50% | 4 | 1 | 0 |
| Wrongful Disconnect | 14 | 0 | 0 | 0 | 14 | 4.19% | 14 | 0 | 0 |
| High Bill | 1 | 0 | 0 | 0 | 1 | 0.30% | 1 | 0 | 0 |
| Inadequate Service | 26 | 1 | 0 | 0 | 27 | 8.08% | 25 | 2 | 0 |
| Service Extension | 1 | 0 | 0 | 0 | 0 | 0.00% | 1 | 0 | 0 |
| Service Restoration | 89 | 1 | 0 | 0 | 90 | 26.95% | 90 | 0 | 0 |
| Other | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Total Industrial | 332 | 2 | 0 | 0 | 334 | | 329 | 5 | 0 |
| Total Industrial Percentage | 99.40% | 0.60% | 0.00% | 0.00% | | | | | |
| **Residential** | | | | | | | | | |
| Billing errors | 27779 | 276 | 433 | 13 | 28,501 | 42.05% | 28488 | 12 | 1 |
| Inaccurate Metering | 28 | 1 | 1 | 0 | 30 | 0.04% | 30 | 0 | 0 |
| Wrongful Disconnect | 11598 | 333 | 434 | 37 | 12,402 | 18.30% | 12398 | 4 | 0 |
| High Bill | 245 | 7 | 11 | 1 | 264 | 0.39% | 264 | 0 | 0 |
| Inadequate Service | 23396 | 446 | 494 | 31 | 24,367 | 35.95% | 24354 | 13 | 0 |
| Service Extension | 19 | 2 | 6 | 0 | 27 | 0.04% | 27 | 0 | 0 |
| Service Restoration | 2111 | 17 | 57 | 0 | 2,185 | 3.22% | 2184 | 1 | 0 |
| Other | 6 | 0 | 0 | 0 | 6 | 0.01% | 2 | 4 | 0 |
| Total Residential | 65,182 | 1,082 | 1,436 | 82 | 67,782 | | 67,747 | 34 | 1 |
| Total Residential Percentage | 96.16% | 1.60% | 2.12% | 0.12% | | | | | |
| **Total State of Minnesota** | **68,144** | **1,105** | **1,451** | **84** | **70,784** | | **70,736** | **46** | **2** |
| **Total ST of MN Percentage** | **96.27%** | **1.56%** | **2.05%** | **0.12%** | | | | | |

**Xcel Energy**
**Customer Complaint Report**
**June, 2015**

**Turnaround Days for Closing a Complaint**

| | Agree | Compromise | Demonstrate | Refuse | Total | % | Initial Inquiry | within 10 days | Longer than 10 days |
|---|---|---|---|---|---|---|---|---|---|
| **Commercial** | | | | | | | | | |
| Billing errors | 2159 | 9 | 5 | 1 | 2,174 | 73.08% | 2161 | 10 | 3 |
| Inaccurate Metering | 3 | 0 | 0 | 0 | 3 | 0.10% | 3 | 0 | 0 |
| Wrongful Disconnect | 185 | 1 | 4 | 0 | 190 | 6.39% | 190 | 0 | 0 |
| High Bill | 29 | 2 | 1 | 0 | 32 | 1.08% | 31 | 1 | 0 |
| Inadequate Service | 241 | 5 | 2 | 0 | 248 | 8.34% | 248 | 0 | 0 |
| Service Extension | 6 | 1 | 0 | 0 | 7 | 0.24% | 7 | 0 | 0 |
| Service Restoration | 309 | 5 | 7 | 0 | 321 | 10.79% | 321 | 0 | 0 |
| Other | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Total Commercial | 2,932 | 23 | 19 | 1 | 2,975 | | 2,961 | 11 | 3 |
| Total Commercial Percent | 98.55% | 0.77% | 0.64% | 0.03% | | | | | |
| **Industrial** | | | | | | | | | |
| Billing errors | 249 | 4 | 0 | 0 | 253 | 65.54% | 251 | 2 | 0 |
| Inaccurate Metering | 2 | 0 | 0 | 0 | 2 | 0.52% | 2 | 0 | 0 |
| Wrongful Disconnect | 9 | 0 | 0 | 0 | 9 | 2.33% | 9 | 0 | 0 |
| High Bill | 2 | 0 | 0 | 0 | 2 | 0.52% | 2 | 0 | 0 |
| Inadequate Service | 28 | 0 | 0 | 0 | 28 | 7.25% | 28 | 0 | 0 |
| Service Extension | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Service Restoration | 91 | 1 | 0 | 0 | 92 | 23.83% | 91 | 1 | 0 |
| Other | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Total Industrial | 381 | 5 | 0 | 0 | 386 | | 383 | 3 | 0 |
| Total Industrial Percentage | 98.70% | 1.30% | 0.00% | 0.00% | | | | | |
| **Residential** | | | | | | | | | |
| Billing errors | 29930 | 314 | 473 | 18 | 30,735 | 44.33% | 30726 | 9 | 0 |
| Inaccurate Metering | 21 | 0 | 2 | 0 | 23 | 0.03% | 23 | 0 | 0 |
| Wrongful Disconnect | 9641 | 229 | 441 | 32 | 10,343 | 14.92% | 10337 | 6 | 0 |
| High Bill | 363 | 9 | 20 | 0 | 392 | 0.57% | 392 | 0 | 0 |
| Inadequate Service | 24124 | 426 | 611 | 31 | 25,192 | 36.34% | 25178 | 12 | 2 |
| Service Extension | 22 | 2 | 4 | 0 | 28 | 0.04% | 28 | 0 | 0 |
| Service Restoration | 2498 | 28 | 76 | 0 | 2,602 | 3.75% | 2601 | 1 | 0 |
| Other | 12 | 0 | 1 | 0 | 13 | 0.02% | 4 | 8 | 1 |
| Total Residential | 66,611 | 1,008 | 1,628 | 81 | 69,328 | | 69,289 | 36 | 3 |
| Total Residential Percentage | 96.08% | 1.45% | 2.35% | 0.12% | | | | | |
| **Total State of Minnesota** | **69,924** | **1,036** | **1,647** | **82** | **72,689** | | **72,633** | **50** | **6** |
| **Total ST of MN Percentage** | **96.20%** | **1.43%** | **2.27%** | **0.11%** | | | | | |

**Xcel Energy**
**Customer Complaint Report**
**July, 2015**

**Turnaround Days for Closing a Complaint**

| | Agree | Compromise | Demonstrate | Refuse | Total | % | Initial Inquiry | within 10 days | Longer than 10 days |
|---|---|---|---|---|---|---|---|---|---|
| **Commercial** | | | | | | | | | |
| Billing errors | 1980 | 10 | 12 | 0 | 2,002 | 62.68% | 1995 | 6 | 1 |
| Inaccurate Metering | 3 | 0 | 0 | 0 | 3 | 0.09% | 3 | 0 | 0 |
| Wrongful Disconnect | 172 | 3 | 1 | 0 | 176 | 5.51% | 176 | 0 | 0 |
| High Bill | 33 | 1 | 0 | 0 | 34 | 1.06% | 34 | 0 | 0 |
| Inadequate Service | 232 | 2 | 0 | 1 | 235 | 7.36% | 234 | 1 | 0 |
| Service Extension | 1 | 0 | 0 | 0 | 1 | 0.03% | 1 | 0 | 0 |
| Service Restoration | 715 | 12 | 15 | 0 | 742 | 23.23% | 742 | 0 | 0 |
| Other | 1 | 0 | 0 | 0 | 1 | 0.03% | 0 | 1 | 0 |
| Total Commercial | 3,137 | 28 | 28 | 1 | 3,194 | | 3,185 | 8 | 1 |
| Total Commercial Percent | 98.22% | 0.88% | 0.88% | 0.03% | | | | | |
| **Industrial** | | | | | | | | | |
| Billing errors | 274 | 0 | 1 | 0 | 275 | 52.38% | 272 | 3 | 0 |
| Inaccurate Metering | 1 | 0 | 0 | 0 | 1 | 0.19% | 1 | 0 | 0 |
| Wrongful Disconnect | 9 | 0 | 0 | 0 | 9 | 1.71% | 9 | 0 | 0 |
| High Bill | 2 | 0 | 0 | 0 | 2 | 0.38% | 2 | 0 | 0 |
| Inadequate Service | 34 | 0 | 0 | 0 | 34 | 6.48% | 33 | 1 | 0 |
| Service Extension | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Service Restoration | 192 | 3 | 8 | 1 | 204 | 38.86% | 204 | 0 | 0 |
| Other | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Total Industrial | 512 | 3 | 9 | 1 | 525 | | 521 | 4 | 0 |
| Total Industrial Percentage | 97.52% | 0.57% | 1.71% | 0.19% | | | | | |
| **Residential** | | | | | | | | | |
| Billing errors | 30433 | 354 | 455 | 17 | 31,259 | 40.72% | 31241 | 18 | 0 |
| Inaccurate Metering | 28 | 0 | 0 | 0 | 28 | 0.04% | 28 | 0 | 0 |
| Wrongful Disconnect | 9546 | 255 | 382 | 25 | 10,208 | 13.30% | 10201 | 7 | 0 |
| High Bill | 797 | 15 | 27 | 1 | 840 | 1.09% | 838 | 2 | 0 |
| Inadequate Service | 25015 | 525 | 664 | 33 | 26,237 | 34.17% | 26228 | 9 | 0 |
| Service Extension | 28 | 1 | 13 | 0 | 42 | 0.05% | 42 | 0 | 0 |
| Service Restoration | 7849 | 83 | 209 | 3 | 8,144 | 10.61% | 8143 | 1 | 0 |
| Other | 13 | 0 | 3 | 0 | 16 | 0.02% | 5 | 11 | 0 |
| Total Residential | 73,709 | 1,233 | 1,753 | 79 | 76,774 | | 76,726 | 48 | 0 |
| Total Residential Percentage | 96.01% | 1.61% | 2.28% | 0.10% | | | | | |
| **Total State of Minnesota** | **77,358** | **1,264** | **1,790** | **81** | **80,493** | | **80,432** | **60** | **1** |
| **Total ST of MN Percentage** | **96.11%** | **1.57%** | **2.22%** | **0.10%** | | | | | |

**Xcel Energy**
**Customer Complaint Report**
**August, 2015**

**Turnaround Days for Closing a Complaint**

| | Agree | Compromise | Demonstrate | Refuse | Total | % | Initial Inquiry | within 10 days | Longer than 10 days |
|---|---|---|---|---|---|---|---|---|---|
| **Commercial** | | | | | | | | | |
| Billing errors | 1893 | 6 | 6 | 0 | 1,905 | 69.96% | 1896 | 8 | 1 |
| Inaccurate Metering | 6 | 0 | 0 | 0 | 6 | 0.22% | 6 | 0 | 0 |
| Wrongful Disconnect | 175 | 2 | 2 | 0 | 179 | 6.57% | 179 | 0 | 0 |
| High Bill | 47 | 1 | 2 | 0 | 50 | 1.84% | 50 | 0 | 0 |
| Inadequate Service | 245 | 3 | 5 | 1 | 254 | 9.33% | 252 | 2 | 0 |
| Service Extension | 2 | 0 | 0 | 0 | 2 | 0.07% | 2 | 0 | 0 |
| Service Restoration | 319 | 7 | 1 | 0 | 327 | 12.01% | 327 | 0 | 0 |
| Other | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Total Commercial | 2,687 | 19 | 16 | 1 | 2,723 | | 2,712 | 10 | 1 |
| Total Commercial Percent | 98.68% | 0.70% | 0.59% | 0.04% | | | | | |
| **Industrial** | | | | | | | | | |
| Billing errors | 221 | 1 | 0 | 0 | 222 | 63.79% | 220 | 2 | 0 |
| Inaccurate Metering | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Wrongful Disconnect | 11 | 0 | 0 | 0 | 11 | 3.16% | 11 | 0 | 0 |
| High Bill | 2 | 0 | 0 | 0 | 2 | 0.57% | 2 | 0 | 0 |
| Inadequate Service | 21 | 0 | 0 | 0 | 21 | 6.03% | 21 | 0 | 0 |
| Service Extension | 1 | 0 | 0 | 0 | 1 | 0.29% | 1 | 0 | 0 |
| Service Restoration | 89 | 0 | 2 | 0 | 91 | 26.15% | 91 | 0 | 0 |
| Other | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Total Industrial | 345 | 1 | 2 | 0 | 348 | | 346 | 2 | 0 |
| Total Industrial Percentage | 99.14% | 0.29% | 0.57% | 0.00% | | | | | |
| **Residential** | | | | | | | | | |
| Billing errors | 28309 | 228 | 389 | 25 | 28,951 | 42.46% | 28935 | 15 | 1 |
| Inaccurate Metering | 27 | 1 | 3 | 0 | 31 | 0.05% | 31 | 0 | 0 |
| Wrongful Disconnect | 8460 | 253 | 234 | 12 | 8,959 | 13.14% | 8956 | 3 | 0 |
| High Bill | 1003 | 14 | 44 | 0 | 1,061 | 1.56% | 1060 | 0 | 1 |
| Inadequate Service | 25559 | 470 | 525 | 29 | 26,583 | 38.99% | 26573 | 8 | 2 |
| Service Extension | 26 | 2 | 1 | 0 | 29 | 0.04% | 29 | 0 | 0 |
| Service Restoration | 2468 | 21 | 58 | 0 | 2,547 | 3.74% | 2546 | 1 | 0 |
| Other | 19 | 2 | 0 | 0 | 21 | 0.03% | 7 | 14 | 0 |
| Total Residential | 65,871 | 991 | 1,254 | 66 | 68,182 | | 68,137 | 41 | 4 |
| Total Residential Percentage | 96.61% | 1.45% | 1.84% | 0.10% | | | | | |
| **Total State of Minnesota** | **68,903** | **1,011** | **1,272** | **67** | **71,253** | | **71,195** | **53** | **5** |
| **Total ST of MN Percentage** | **96.70%** | **1.42%** | **1.79%** | **0.09%** | | | | | |

**Xcel Energy**
**Customer Complaint Report**
**September, 2015**

**Turnaround Days for Closing a Complaint**

| | Agree | Compromise | Demonstrate | Refuse | Total | % | Initial Inquiry | within 10 days | Longer than 10 days |
|---|---|---|---|---|---|---|---|---|---|
| **Commercial** | | | | | | | | | |
| Billing errors | 1865 | 5 | 9 | 0 | 1,879 | 72.46% | 1862 | 17 | 0 |
| Inaccurate Metering | 9 | 0 | 0 | 0 | 9 | 0.35% | 9 | 0 | 0 |
| Wrongful Disconnect | 114 | 4 | 1 | 0 | 119 | 4.59% | 119 | 0 | 0 |
| High Bill | 27 | 0 | 1 | 0 | 28 | 1.08% | 27 | 1 | 0 |
| Inadequate Service | 278 | 3 | 4 | 0 | 285 | 10.99% | 283 | 2 | 0 |
| Service Extension | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Service Restoration | 268 | 1 | 4 | 0 | 273 | 10.53% | 273 | 0 | 0 |
| Other | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Total Commercial | 2,561 | 13 | 19 | 0 | 2,593 | | 2,573 | 20 | 0 |
| Total Commercial Percent | 98.77% | 0.50% | 0.73% | 0.00% | | | | | |
| **Industrial** | | | | | | | | | |
| Billing errors | 200 | 0 | 0 | 0 | 200 | 63.29% | 193 | 5 | 2 |
| Inaccurate Metering | 1 | 0 | 0 | 0 | 1 | 0.32% | 1 | 0 | 0 |
| Wrongful Disconnect | 5 | 0 | 0 | 0 | 5 | 1.58% | 5 | 0 | 0 |
| High Bill | 1 | 0 | 0 | 0 | 1 | 0.32% | 1 | 0 | 0 |
| Inadequate Service | 36 | 0 | 0 | 0 | 36 | 11.39% | 36 | 0 | 0 |
| Service Extension | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Service Restoration | 73 | 0 | 0 | 0 | 73 | 23.10% | 72 | 1 | 0 |
| Other | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Total Industrial | 316 | 0 | 0 | 0 | 316 | | 308 | 6 | 2 |
| Total Industrial Percentage | 100.00% | 0.00% | 0.00% | 0.00% | | | | | |
| **Residential** | | | | | | | | | |
| Billing errors | 28931 | 237 | 524 | 10 | 29,702 | 43.24% | 29684 | 18 | 0 |
| Inaccurate Metering | 30 | 2 | 1 | 0 | 33 | 0.05% | 33 | 0 | 0 |
| Wrongful Disconnect | 9008 | 344 | 330 | 18 | 9,700 | 14.12% | 9698 | 2 | 0 |
| High Bill | 578 | 9 | 40 | 1 | 628 | 0.91% | 628 | 0 | 0 |
| Inadequate Service | 25687 | 501 | 671 | 22 | 26,881 | 39.13% | 26868 | 12 | 1 |
| Service Extension | 21 | 3 | 10 | 0 | 34 | 0.05% | 34 | 0 | 0 |
| Service Restoration | 1627 | 20 | 54 | 1 | 1,702 | 2.48% | 1700 | 2 | 0 |
| Other | 9 | 1 | 0 | 0 | 10 | 0.01% | 4 | 6 | 0 |
| Total Residential | 65,891 | 1,117 | 1,630 | 52 | 68,690 | | 68,649 | 40 | 1 |
| Total Residential Percentage | 95.93% | 1.63% | 2.37% | 0.08% | | | | | |
| **Total State of Minnesota** | **68,768** | **1,130** | **1,649** | **52** | **71,599** | | **71,530** | **66** | **3** |
| **Total ST of MN Percentage** | **96.05%** | **1.58%** | **2.30%** | **0.07%** | | | | | |

**Xcel Energy**
**Customer Complaint Report**
**October, 2015**

**Turnaround Days for Closing a Complaint**

| | Agree | Compromise | Demonstrate | Refuse | Total | % | Initial Inquiry | within 10 days | Longer than 10 days |
|---|---|---|---|---|---|---|---|---|---|
| **Commercial** | | | | | | | | | |
| Billing errors | 1966 | 17 | 8 | 2 | 1993 | 72.45% | 1985 | 8 | 0 |
| Inaccurate Metering | 5 | 0 | 1 | 0 | 6 | 0.22% | 6 | 0 | 0 |
| Wrongful Disconnect | 170 | 2 | 3 | 0 | 175 | 6.36% | 174 | 1 | 0 |
| High Bill | 39 | 0 | 0 | 0 | 39 | 1.42% | 39 | 0 | 0 |
| Inadequate Service | 338 | 5 | 4 | 0 | 347 | 12.61% | 345 | 2 | 0 |
| Service Extension | 2 | 0 | 0 | 0 | 2 | 0.07% | 2 | 0 | 0 |
| Service Restoration | 185 | 1 | 3 | 0 | 189 | 6.87% | 188 | 1 | 0 |
| Other | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Total Commercial | 2,705 | 25 | 19 | 2 | 2,751 | | 2,739 | 12 | 0 |
| Total Commercial Percent | 98.33% | 0.91% | 0.69% | 0.07% | | | | | |
| **Industrial** | | | | | | | | | |
| Billing errors | 283 | 0 | 1 | 0 | 284 | 76.96% | 280 | 4 | 0 |
| Inaccurate Metering | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Wrongful Disconnect | 11 | 0 | 0 | 0 | 11 | 2.98% | 11 | 0 | 0 |
| High Bill | 1 | 0 | 0 | 0 | 1 | 0.27% | 1 | 0 | 0 |
| Inadequate Service | 31 | 0 | 0 | 0 | 31 | 8.40% | 30 | 1 | 0 |
| Service Extension | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Service Restoration | 39 | 1 | 1 | 0 | 41 | 11.11% | 41 | 0 | 0 |
| Other | 1 | 0 | 0 | 0 | 1 | 0.27% | 0 | 1 | 0 |
| Total Industrial | 366 | 1 | 2 | 0 | 369 | | 363 | 6 | 0 |
| Total Industrial Percentage | 99.19% | 0.27% | 0.54% | 0.00% | | | | | |
| **Residential** | | | | | | | | | |
| Billing errors | 28717 | 287 | 556 | 12 | 29,572 | 45.69% | 29559 | 10 | 3 |
| Inaccurate Metering | 43 | 0 | 1 | 0 | 44 | 0.07% | 44 | 0 | 0 |
| Wrongful Disconnect | 5952 | 315 | 172 | 11 | 6,450 | 9.97% | 6448 | 1 | 1 |
| High Bill | 476 | 11 | 31 | 1 | 519 | 0.80% | 519 | 0 | 0 |
| Inadequate Service | 25469 | 562 | 599 | 20 | 26,650 | 41.18% | 26644 | 6 | 0 |
| Service Extension | 14 | 2 | 0 | 0 | 16 | 0.02% | 16 | 0 | 0 |
| Service Restoration | 1394 | 13 | 53 | 3 | 1,463 | 2.26% | 1462 | 1 | 0 |
| Other | 6 | 0 | 0 | 0 | 6 | 0.01% | 1 | 5 | 0 |
| Total Residential | 62,071 | 1,190 | 1,412 | 47 | 64,720 | | 64,693 | 23 | 4 |
| Total Residential Percentage | 95.91% | 1.84% | 2.18% | 0.07% | | | | | |
| **Total State of Minnesota** | **65,142** | **1,216** | **1,433** | **49** | **67,840** | | **67,795** | **41** | **4** |
| **Total ST of MN Percentage** | **96.02%** | **1.79%** | **2.11%** | **0.07%** | | | | | |

**Xcel Energy**
**Customer Complaint Report**
**November, 2015**

**Turnaround Days for Closing a Complaint**

| | Agree | Compromise | Demonstrate | Refuse | Total | % | Initial Inquiry | within 10 days | Longer than 10 days |
|---|---|---|---|---|---|---|---|---|---|
| **Commercial** | | | | | | | | | |
| Billing errors | 1634 | 14 | 8 | 1 | 1,657 | 71.02% | 1645 | 12 | 0 |
| Inaccurate Metering | 3 | 0 | 0 | 0 | 3 | 0.13% | 3 | 0 | 0 |
| Wrongful Disconnect | 138 | 0 | 4 | 0 | 142 | 6.09% | 142 | 0 | 0 |
| High Bill | 10 | 0 | 1 | 0 | 11 | 0.47% | 11 | 0 | 0 |
| Inadequate Service | 310 | 2 | 4 | 0 | 316 | 13.54% | 313 | 3 | 0 |
| Service Extension | 4 | 1 | 0 | 0 | 5 | 0.21% | 5 | 0 | 0 |
| Service Restoration | 191 | 2 | 6 | 0 | 199 | 8.53% | 199 | 0 | 0 |
| Other | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Total Commercial | 2,290 | 19 | 23 | 1 | 2,333 | | 2,318 | 15 | 0 |
| Total Commercial Percent | 98.16% | 0.81% | 0.99% | 0.04% | | | | | |
| **Industrial** | | | | | | | | | |
| Billing errors | 214 | 0 | 1 | 0 | 215 | 62.14% | 215 | 0 | 0 |
| Inaccurate Metering | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Wrongful Disconnect | 16 | 1 | 0 | 0 | 17 | 4.91% | 17 | 0 | 0 |
| High Bill | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Inadequate Service | 41 | 1 | 0 | 0 | 42 | 12.14% | 41 | 1 | 0 |
| Service Extension | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Service Restoration | 71 | 0 | 1 | 0 | 72 | 20.81% | 72 | 0 | 0 |
| Other | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Total Industrial | 342 | 2 | 2 | 0 | 346 | | 345 | 1 | 0 |
| Total Industrial Percentage | 98.84% | 0.58% | 0.58% | 0.00% | | | | | |
| **Residential** | | | | | | | | | |
| Billing errors | 23000 | 287 | 371 | 3 | 23,661 | 46.22% | 23641 | 19 | 1 |
| Inaccurate Metering | 29 | 0 | 2 | 0 | 31 | 0.06% | 31 | 0 | 0 |
| Wrongful Disconnect | 3816 | 238 | 131 | 3 | 4,188 | 8.18% | 4187 | 1 | 0 |
| High Bill | 279 | 6 | 15 | 0 | 300 | 0.59% | 298 | 2 | 0 |
| Inadequate Service | 20691 | 448 | 431 | 14 | 21,584 | 42.17% | 21575 | 9 | 0 |
| Service Extension | 13 | 1 | 2 | 0 | 16 | 0.03% | 16 | 0 | 0 |
| Service Restoration | 1338 | 14 | 52 | 1 | 1,405 | 2.74% | 1402 | 3 | 0 |
| Other | 2 | 0 | 0 | 0 | 2 | 0.00% | 2 | 0 | 0 |
| Total Residential | 49,168 | 994 | 1,004 | 21 | 51,187 | | 51,152 | 34 | 1 |
| Total Residential Percentage | 96.06% | 1.94% | 1.96% | 0.04% | | | | | |
| **Total State of Minnesota** | **51,800** | **1,015** | **1,029** | **22** | **53,866** | | **53,815** | **50** | **1** |
| **Total ST of MN Percentage** | **96.16%** | **1.88%** | **1.91%** | **0.04%** | | | | | |

**Xcel Energy**
**Customer Complaint Report**
**December, 2015**

**Turnaround Days for Closing a Complaint**

| | Agree | Compromise | Demonstrate | Refuse | Total | % | Initial Inquiry | within 10 days | Longer than 10 days |
|---|---|---|---|---|---|---|---|---|---|
| **Commercial** | | | | | | | | | |
| Billing errors | 1685 | 18 | 9 | 1 | 1,713 | 74.67% | 1708 | 5 | 0 |
| Inaccurate Metering | 5 | 1 | 0 | 0 | 6 | 0.26% | 6 | 0 | 0 |
| Wrongful Disconnect | 119 | 2 | 4 | 0 | 125 | 5.45% | 125 | 0 | 0 |
| High Bill | 16 | 0 | 0 | 0 | 16 | 0.70% | 16 | 0 | 0 |
| Inadequate Service | 315 | 1 | 2 | 0 | 318 | 13.86% | 318 | 0 | 0 |
| Service Extension | 2 | 1 | 0 | 0 | 3 | 0.13% | 3 | 0 | 0 |
| Service Restoration | 112 | 0 | 1 | 0 | 113 | 4.93% | 110 | 3 | 0 |
| Other | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Total Commercial | 2,254 | 23 | 16 | 1 | 2,294 | | 2,286 | 8 | 0 |
| Total Commercial Percentage | 98.26% | 1.00% | 0.70% | 0.04% | | | | | |
| **Industrial** | | | | | | | | | |
| Billing errors | 252 | 1 | 0 | 1 | 254 | 62.72% | 254 | 0 | 0 |
| Inaccurate Metering | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Wrongful Disconnect | 15 | 0 | 1 | 0 | 16 | 3.95% | 16 | 0 | 0 |
| High Bill | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Inadequate Service | 83 | 1 | 1 | 0 | 85 | 20.99% | 85 | 0 | 0 |
| Service Extension | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Service Restoration | 48 | 1 | 1 | 0 | 50 | 12.35% | 50 | 0 | 0 |
| Other | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Total Industrial | 398 | 3 | 3 | 1 | 405 | | 405 | 0 | 0 |
| Total Industrial Percentage | 98.27% | 0.74% | 0.74% | 0.25% | | | | | |
| **Residential** | | | | | | | | | |
| Billing errors | 23966 | 321 | 386 | 11 | 24,684 | 47.54% | 24671 | 13 | 0 |
| Inaccurate Metering | 23 | 0 | 1 | 0 | 24 | 0.05% | 24 | 0 | 0 |
| Wrongful Disconnect | 3843 | 229 | 147 | 4 | 4,223 | 8.13% | 4222 | 1 | 0 |
| High Bill | 449 | 7 | 17 | 1 | 474 | 0.91% | 473 | 0 | 1 |
| Inadequate Service | 20725 | 507 | 378 | 15 | 21,625 | 41.65% | 21622 | 3 | 0 |
| Service Extension | 4 | 0 | 2 | 0 | 6 | 0.01% | 6 | 0 | 0 |
| Service Restoration | 853 | 9 | 19 | 0 | 881 | 1.70% | 880 | 0 | 1 |
| Other | 4 | 0 | 0 | 0 | 4 | 0.01% | 0 | 4 | 0 |
| Total Residential | 49,867 | 1,073 | 950 | 31 | 51,921 | | 51,898 | 21 | 2 |
| Total Residential Percentage | 96.04% | 2.07% | 1.83% | 0.06% | | | | | |
| **Total State of Minnesota** | **52,519** | **1,099** | **969** | **33** | **54,620** | | **54,589** | **29** | **2** |
| **Total ST of MN Percentage** | **96.15%** | **2.01%** | **1.77%** | **0.06%** | | | | | |

**5 Year Avg**
**(CAIDI using SAIDI/SAIFI)**

| Metro East | 2011 | 2012 | 2013 | 2014 | 2015 | Proposed Standards for 2016 |
|---|---|---|---|---|---|---|
| **SAIFI** | 0.78 | 0.91 | 0.83 | 0.86 | 0.92 | **0.86** |
| **CAIDI** | 89.61 | 108.36 | 97.75 | 92.46 | 109.67 | **100.01** |
| **SAIDI** | 69.89 | 98.35 | 81.28 | 79.73 | 101.38 | **86.13** |

| Metro West | 2011 | 2012 | 2013 | 2014 | 2015 | Proposed Standards for 2016 |
|---|---|---|---|---|---|---|
| **SAIFI** | 0.87 | 0.98 | 0.94 | 0.84 | 0.84 | **0.89** |
| **CAIDI** | 98.20 | 105.93 | 105.09 | 98.50 | 108.44 | **103.33** |
| **SAIDI** | 85.07 | 103.98 | 98.71 | 83.02 | 90.95 | **92.35** |

| Northwest | 2011 | 2012 | 2013 | 2014 | 2015 | Proposed Standards for 2016 |
|---|---|---|---|---|---|---|
| **SAIFI** | 0.85 | 0.84 | 0.93 | 0.82 | 0.65 | **0.82** |
| **CAIDI** | 122.13 | 125.62 | 102.86 | 101.02 | 115.32 | **113.15** |
| **SAIDI** | 103.27 | 106.07 | 95.90 | 82.80 | 75.27 | **92.66** |

| Southeast | 2011 | 2012 | 2013 | 2014 | 2015 | Proposed Standards for 2016 |
|---|---|---|---|---|---|---|
| **SAIFI** | 0.72 | 0.59 | 0.75 | 0.81 | 0.72 | **0.72** |
| **CAIDI** | 107.92 | 120.50 | 145.11 | 158.78 | 115.64 | **130.78** |
| **SAIDI** | 78.15 | 71.54 | 108.83 | 129.20 | 82.96 | **94.14** |

Notes:
Each year's calculations use storm day thresholds based on the prior five years of outage history.
SD Divisional feeders serving Minnesota customers are included in Southeast region
ND Divisional feeders serving Minnesota customers are included in Northwest region

This Attachment addresses the requirements of the Commission's Orders in past Service Quality Rules dockets, specifically:

- *Required Xcel to augment its next filing to include a description of the policies, procedures and actions that it has implemented, and plans to implement, to assure reliability, including information on how it is demonstrating pro-active management of the system as a whole, increased reliability, and active contingency planning*
- *Required Xcel to incorporate into its next filing a summary table that allows the reader to more easily assess the overall reliability of the system and identify the main factors that affect reliability.*

## Overview

Each year, Xcel Energy develops and manages programs to maintain and improve the performance of its transmission and distribution assets. We identify and implement these programs in an effort to assure reliability, enable proactive management of the system as a whole, and effectively respond when outages occur.

In this document, we provide a snapshot of our 2015 reliability results. We additionally outline our process for developing and implementing programs to maintain and improve our system, detail key indicators of the highest impact programs, and graphically chart current year outages by cause codes. We also provide reliability cost matrices, which compare reliability-related Capital and Operating and Maintenance expenses to our reliability results.

We have also included three tables to illustrate our reliability performance trending as well as a discussion around CEMI (Customers Experiencing Multiple Interruptions) tools to better reflect the customer experience.

## 2015 Reliability Results

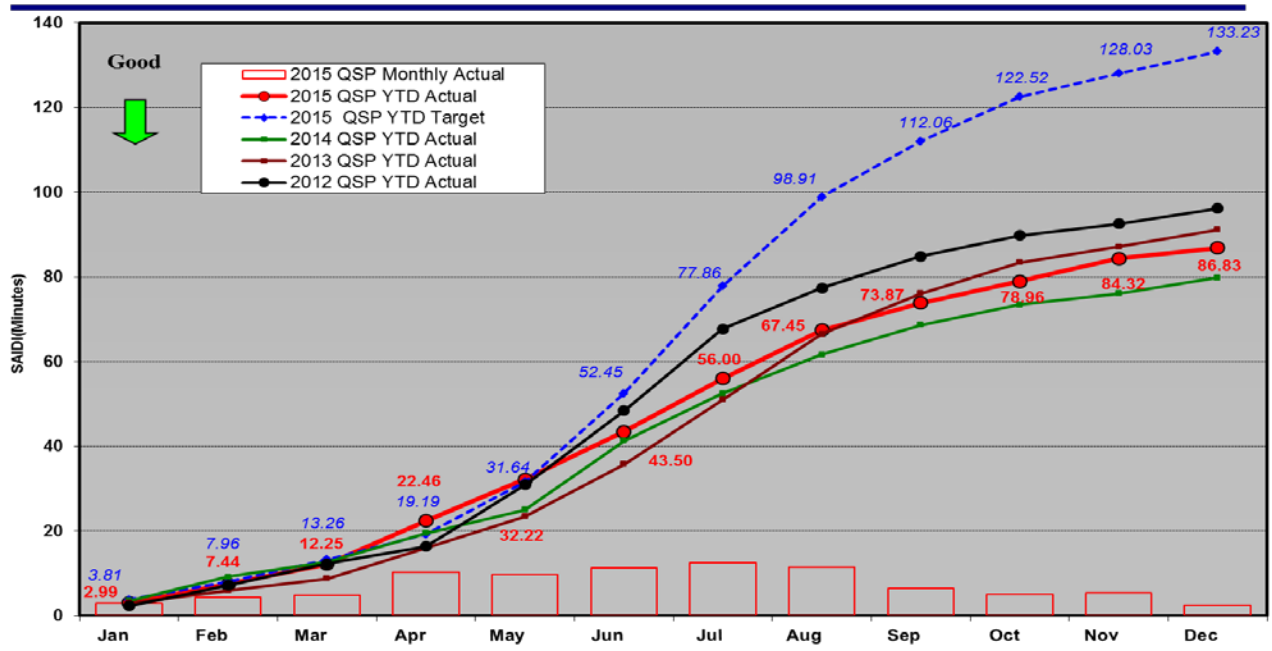
In 2015, we achieved a SAIDI result of 86.83 minutes, which exceeds our Quality of Service Plan tariff goal of 133.23 minutes.[1] Our 2015 SAIFI result of 0.79 outage events also exceeds the QSP tariff goal of 1.21 outage events.[2] The below graphs show overall system performance for the years 2012 through 2015, with storm days excluded, per the QSP tariff calculation method.

[1] Minnesota Electric Rate Book MPUC. No. 2 Section 6, Sheets 7.1 through 7.11, approved by the Commission's August 12, 2013 Order in Docket Nos. E,G002/CI-02-2034 and E,G002/M-12-383

[2] In this context, "exceeding" the goals is a positive result, reflecting good system performance.

Xcel Energy

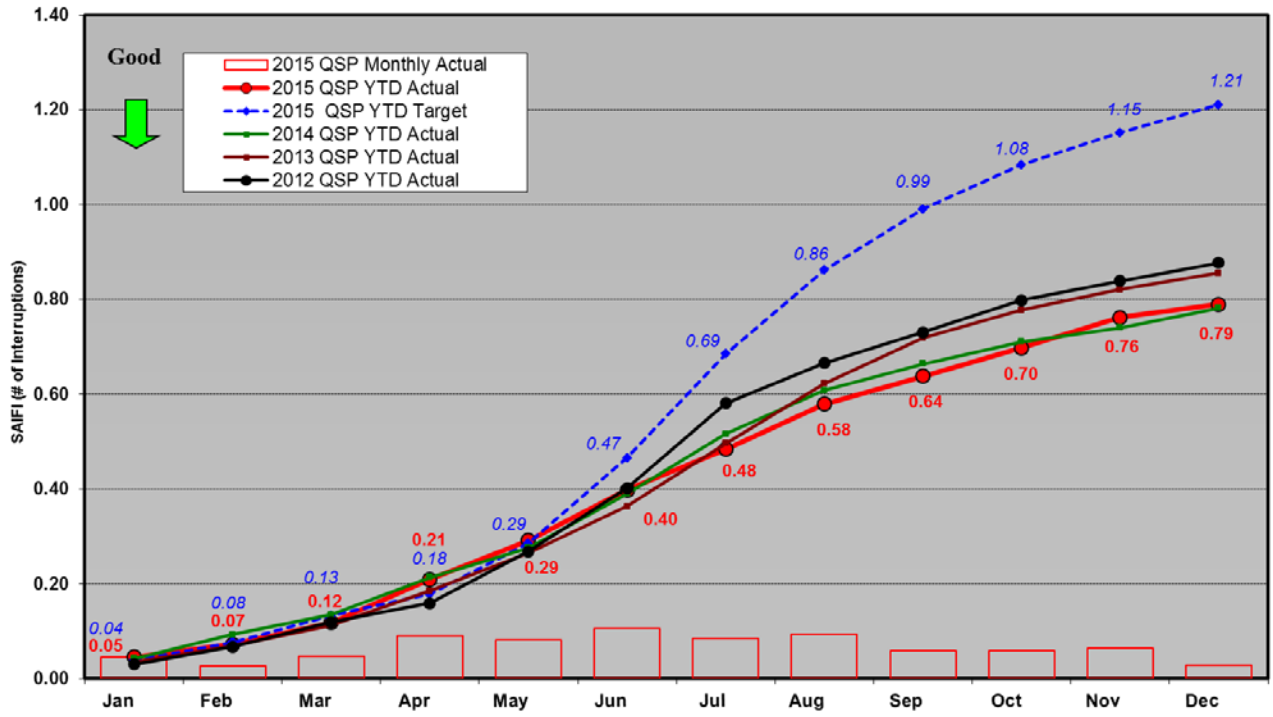
## *MINNESOTA QSP SAIDI - YTD (Tariff Method/Threshold)*
### *(Excluding Transmission Line level, Including All Causes)*




*IEEE Normalized by Region after excluding Transmission Line level*
*Based on sustained outages only (>5 minutes), excluding Transmission Line level, including all Causes, Meter-based customer counts*

Xcel Energy

## *MINNESOTA QSP SAIFI - YTD (Tariff Method/Threshold)*
### *(Excluding Transmission Line level, Including All Causes)*




*IEEE Normalized by Region after excluding Transmission Line level*
*Based on sustained outages only (>5 minutes), excluding Transmission Line level, including all Causes, Meter-based customer counts*

In an effort to provide the Commission a better idea of our reliability performance trending, we have provided three tables showing the historical performance, storm days and the current targets under three methodologies (including storms, our QSP Tariff, and the Minnesota Rules). These three tables are below.

## *Historical Reliability Indices & Storm Day Exclusions*

| With Storms[1] | | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|
| Minnesota | SAIDI | 79.66 | 274.42 | 207.77 | 149.15 | 562.11 | 116.43 | 184.50 |
| | SAIFI | 0.76 | 1.50 | 1.11 | 1.07 | 1.39 | 0.92 | 0.96 |
| | CAIDI | 104.58 | 183.43 | 187.11 | 139.51 | 404.36 | 126.00 | 192.32 |
| Metro East | SAIDI | 76.66 | 270.43 | 113.90 | 190.95 | 352.30 | 123.54 | 177.19 |
| | SAIFI | 0.76 | 1.59 | 0.96 | 1.20 | 1.27 | 0.98 | 1.04 |
| | CAIDI | 101.50 | 170.23 | 118.95 | 159.23 | 278.46 | 125.93 | 169.86 |
| Metro West | SAIDI | 86.77 | 301.09 | 238.03 | 139.19 | 810.01 | 105.98 | 229.78 |
| | SAIFI | 0.81 | 1.54 | 1.19 | 1.10 | 1.55 | 0.89 | 1.00 |
| | CAIDI | 106.87 | 196.10 | 199.66 | 126.85 | 523.66 | 118.70 | 229.92 |
| Northwest[4] | SAIDI | 62.08 | 181.38 | 470.05 | 109.75 | 468.22 | 82.82 | 75.61 |
| | SAIFI | 0.65 | 1.26 | 1.40 | 0.87 | 1.40 | 0.82 | 0.66 |
| | CAIDI | 96.21 | 143.66 | 334.78 | 126.17 | 335.53 | 101.00 | 115.40 |
| Southeast[5] | SAIDI | 73.10 | 251.24 | 125.28 | 97.25 | 179.29 | 173.45 | 98.23 |
| | SAIFI | 0.66 | 1.24 | 0.95 | 0.71 | 1.06 | 0.98 | 0.79 |
| | CAIDI | 110.52 | 203.04 | 131.69 | 137.84 | 168.93 | 176.51 | 125.07 |

| MN Tariff[2] | | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | '15 Target |
|---|---|---|---|---|---|---|---|---|---|
| Minnesota | SAIDI | 74.48 | 110.83 | 83.87 | 96.20 | 91.12 | 79.85 | 86.83 | 133.23 |
| | SAIFI | 0.71 | 1.12 | 0.82 | 0.88 | 0.86 | 0.78 | 0.79 | 1.21 |
| | CAIDI | 104.90 | 99.24 | 102.08 | 109.60 | 106.51 | 102.07 | 109.90 | NA |
| Metro East | SAIDI | 69.43 | 102.03 | 79.34 | 90.70 | 83.56 | 77.58 | 93.71 | |
| | SAIFI | 0.70 | 1.20 | 0.83 | 0.88 | 0.83 | 0.82 | 0.90 | |
| | CAIDI | 98.60 | 85.09 | 96.00 | 103.35 | 100.72 | 94.81 | 104.58 | |
| | MED | 0 | 4 | 2 | 5 | 3 | 3 | 2 | |
| | Days | None | 6/25,7/17, 10/26,11/13 | 7/1,7/10 | 6/10,6/19,7/3, 8/3,11/10 | 6/21,6/22, 6/23 | 2/20,6/14,6/16 | 7/12, 7/18 | |
| Metro West | SAIDI | 85.69 | 123.25 | 88.20 | 103.42 | 101.24 | 81.85 | 88.98 | |
| | SAIFI | 0.80 | 1.22 | 0.87 | 0.97 | 0.96 | 0.82 | 0.82 | |
| | CAIDI | 107.03 | 101.10 | 101.09 | 106.83 | 105.85 | 100.15 | 108.90 | |
| | MED | 0 | 4 | 5 | 3 | 5 | 1 | 1 | |
| | Days | None | 6/25,7/17, 10/26,11/13 | 5/22,7/1,7/10, 7/18,8/1 | 2/29,6/19,8/3 | 6/21,6/22, 6/23,6/24,8/6 | 6/14 | 7/18 | |
| Northwest[4] | SAIDI | 52.61 | 102.79 | 79.42 | 94.20 | 85.78 | 62.16 | 69.39 | |
| | SAIFI | 0.45 | 0.80 | 0.69 | 0.73 | 0.75 | 0.61 | 0.57 | |
| | CAIDI | 116.70 | 129.28 | 115.38 | 128.31 | 113.87 | 102.05 | 121.05 | |
| | MED | 0 | 2 | 6 | 0 | 2 | 0 | 0 | |
| | Days | None | 8/13,10/26 | 2/20,5/30,7/1, 7/10,8/1,8/2 | None | 6/21,6/22 | None | None | |
| Southeast[5] | SAIDI | 59.71 | 89.58 | 82.70 | 82.40 | 73.58 | 94.45 | 70.78 | |
| | SAIFI | 0.56 | 0.69 | 0.70 | 0.59 | 0.57 | 0.67 | 0.52 | |
| | CAIDI | 107.39 | 130.66 | 118.72 | 138.48 | 129.93 | 141.93 | 135.23 | |
| | MED | 0 | 5 | 2 | 1 | 4 | 4 | 1 | |
| | Days | None | 6/25,6/26,7/24, 8/13,11/13 | 7/1,7/23 | 8/4 | 4/9,5/2,5/26, 6/21 | 2/20,6/16,8/4, 12/15 | 7/18 | |

| Annual Rules[3] | | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | '15 Target |
|---|---|---|---|---|---|---|---|---|---|
| Minnesota | SAIDI | 77.36 | 101.99 | 81.10 | 99.00 | 93.73 | 86.63 | 92.08 | NA |
| | SAIFI | 0.74 | 1.10 | 0.82 | 0.90 | 0.88 | 0.84 | 0.84 | NA |
| | CAIDI | 104.49 | 92.54 | 98.75 | 109.47 | 106.06 | 102.63 | 110.02 | NA |
| Metro East | SAIDI | 74.21 | 88.30 | 69.89 | 98.35 | 81.28 | 79.73 | 101.38 | 83.51 |
| | SAIFI | 0.73 | 1.15 | 0.78 | 0.91 | 0.83 | 0.86 | 0.92 | 0.91 |
| | CAIDI | 101.87 | 76.87 | 89.61 | 108.36 | 97.75 | 92.46 | 109.67 | 92.17 |
| | Storm | 1 | 7 | 5 | 5 | 5 | 3 | 1 | |
| | Days | 5/20 | 6/25,7/17,8/10, 9/21,10/26, 10/27,11/13 | 7/1,7/10,7/18, 8/1,8/2 | 2/29,6/10, 6/19,7/3,8/3 | 4/23,6/21, 6/22,6/23,6/24 | 2/20,6/14,6/16 | 7/18 | |
| Metro West | SAIDI | 84.43 | 114.85 | 85.07 | 103.98 | 98.71 | 83.02 | 90.95 | 97.13 |
| | SAIFI | 0.79 | 1.19 | 0.87 | 0.98 | 0.94 | 0.84 | 0.84 | 0.96 |
| | CAIDI | 106.58 | 96.49 | 98.20 | 105.93 | 105.09 | 98.50 | 108.44 | 100.75 |
| | Storm | 1 | 5 | 7 | 3 | 7 | 1 | 1 | |
| | Days | 5/20 | 6/25,7/17,10/2 6 10/27,11/13 | 5/22,6/21,7/1, 7/10,7/18,8/1, 9/29 | 2/29,6/19,8/3 | 6/21,6/22, 6/23,6/24, 6/25,6/26,8/6 | 6/14 | 7/18 | |
| Northwest[4] | SAIDI | 62.07 | 84.02 | 103.27 | 106.07 | 95.90 | 82.80 | 75.27 | 94.41 |
| | SAIFI | 0.65 | 0.77 | 0.85 | 0.84 | 0.93 | 0.82 | 0.65 | 0.84 |
| | CAIDI | 96.21 | 108.70 | 122.13 | 125.62 | 102.86 | 101.02 | 115.32 | 112.00 |
| | Storm | 0 | 8 | 8 | 1 | 3 | 0 | 1 | |
| | Days | None | 5/22,6/11,7/17, 8/12,8/13,10/2 6,10/27,11/13 | 5/30,6/21,7/1, 7/5,7/10,7/15, 8/1,8/2 | 6/19 | 6/21,6/22,6/23 | None | 7/28 | |
| Southeast[5] | SAIDI | 69.37 | 103.67 | 78.15 | 71.54 | 108.83 | 129.20 | 82.96 | 98.28 |
| | SAIFI | 0.63 | 0.86 | 0.72 | 0.59 | 0.75 | 0.81 | 0.72 | 0.75 |
| | CAIDI | 110.06 | 121.07 | 107.92 | 120.50 | 145.11 | 158.78 | 115.64 | 131.46 |
| | Storm | 1 | 10 | 7 | 5 | 4 | 7 | 2 | |
| | Days | 5/20 | 6/11,6/17,6/25, 6/26,6/27,7/24, 8/10,8/13,10/2 6,11/13 | 6/14,7/1,7/11, 7/15,7/18,7/23 ,7/27 | 6/14,6/19,6/2 0 8/4,9/5 | 5/2,6/21,7/13, 10/3 | 2/20,4/27, 6/15,6/16,6/17 ,6/18,8/21 | 6/22,7/18 | |

**1) With Storms** - Includes All Days, Levels and Causes, Meter-based customer counts
**2) MN Tariff** - Normalized using IEEE 1366 at the Regional level after removing Transmission Line level. All Causes, Meter-based customer counts
**3) Annual Rules** - Normalized using 3 sigma of rolling 5 year count of sustained outages at the Regional level. All Levels, All Causes, Meter-based customer counts
**4) Northwest** - Includes customers counts and outages in the North Dakota work region that impact Minnesota customers
**5) Southeast** - Includes customers counts and outages in the South Dakota work region that impact Minnesota customers

## Reliability Management Program (RMP) Development

Our annual reliability planning process begins with an analysis of the causes for historical outages. We use pareto charts in our analysis, as provided below, which show outage cause codes for a multi-year time period, ranked in descending order by the number of Sustained Customer Interruptions (SCI).[3]

*Pareto Analysis.* The following pareto charts show feeder, tap, substation and transmission level customer interruptions by primary cause code for the years 2011 through 2015. The "balloons" highlight areas our plans are currently focusing on.

Comparable to last year's report, these charts are based on Minnesota only using our QSP Tariff methodology.

[3] Electric service interruptions greater than five minutes in length.

We note that programs typically require multiple years before their full impact is realized. At first, the programs may only halt SCI increases, but continuing investment eventually reverses adverse trends.

Our current RMP investments are maintaining appropriate levels of overhead (OH) and underground (UG) system performance. Programs such as our Feeder Performance Improvement Program (FPIP) and Reliability Exception Monitoring System (REMS) have realized significant contributions in system performance, and are helping to eliminate or mitigate the failures that would be otherwise typical of aging equipment.

We recognize that it is critical to combine our RMP process with a longer-term view of the aging distribution system in order to provide our customers with reliable electric service, and are taking actions to that end.

**[TRADE SECRET BEGINS**

**TRADE SECRET ENDS]**

**[TRADE SECRET BEGINS**

**TRADE SECRET ENDS]**

**[TRADE SECRET BEGINS**

**TRADE SECRET ENDS]**

**[TRADE SECRET BEGINS**

**TRADE SECRET ENDS]**

**[TRADE SECRET BEGINS**

**TRADE SECRET ENDS]**

*1. Reliability Management Programs – 'Star Chart'*

After considering the most common failures and their causes, as well as at-risk equipment, we develop work plans, or programs, to target our investments; we provide these programs in the 'Star Chart' on the following page. These programs represent those proactive investments in our transmission and distribution systems that we believe are most likely to improve overall reliability, asset health, and meet various contingency planning requirements. These investments are made in addition to other capital investments that provide for adequate capacity to meet customer requirements and to accommodate load switching during outage response to minimize customer impacts.

**[TRADE SECRET BEGINS**

**TRADE SECRET ENDS]**

We have indicated the primary performance impacts of these programs with a red star, where applicable; possible performance impacts include SAIFI (System Average Interruption Frequency Index), CAIDI (Customer Average Interruption Duration Index), CEMI (Customers Experiencing Multiple Interruptions), CELI (Customers Experiencing Lengthy Interruptions) and Customer Complaints.

These programs become part of the annual RMP. A Reliability Core Team (RCT), consisting of both Field and Planning functions monitors system performance and progress against the RMP on a monthly basis, taking actions as necessary to ensure the best possible system performance.

*2. Reliability Management Programs – Key Initiatives*

The chart below outlines primary program indicators for our key initiatives/programs. The actual amount of work completed under each program varies from year to year, and is based primarily on assessments of those areas requiring the greatest attention, as well as the results of our condition assessment (*i.e.,* the number of deficiencies requiring corrective action). For further description of the programs described in the Key Initiatives Chart, please see the Star Chart.

**[TRADE SECRET BEGINS**

**TRADE SECRET ENDS]**

*3. Reliability Management Programs – Work Practices*

Improvements to existing work practices that the RCT members and their staffs identify and implement are also an important contributor to the customer reliability experience and our reliability performance. These are operational and/or procedural changes intended to either reduce the *duration* of outages should they occur–CAIDI, or to reduce the *frequency* of outages–SAIFI.

As noted in the Reliability Management Work Practices Chart below, we assess and prioritize the actions based on a balance of their ability to positively impact reliability (high, medium or low), as well our ability to incorporate into standard work practices – with most occurring concurrently. Many of these actions do not require additional funding to implement, and are achieved via ongoing employee training and/or incorporation into standard work procedures. We continuously monitor all actions, and update our plan as appropriate.

## Reliability Management Work Practices Chart

**[TRADE SECRET BEGINS**

**TRADE SECRET ENDS]**

**Reliability Management Work Practices Chart, continued**

**[TRADE SECRET BEGINS**

**TRADE SECRET ENDS]**

## Reliability Cost Matrices

Isolating the costs associated with providing customers reliable electric service is a challenge, which stems primarily from the interrelatedness of the work that our construction, maintenance, engineering, and other field operations areas perform. These functions are involved in repairing the system when it fails, performing maintenance on the system, and making capacity additions or other upgrades for our customers – all activities that contribute to providing our customers with reliable service.

For example, when we increase the capacity of a portion of our system for new customers, those improvements may also bring reliability improvements to current customers by providing them additional redundancy to the facilities currently serving them.

Given the inherent challenge of capturing the relevant costs of providing reliable service to our customers, we have identified two cost categories that we believe represent significant contributors to our reliability performance:

1) Distribution Control Center and Trouble Operations O&M costs; and,
2) Distribution Capital Reliability Expenditures.

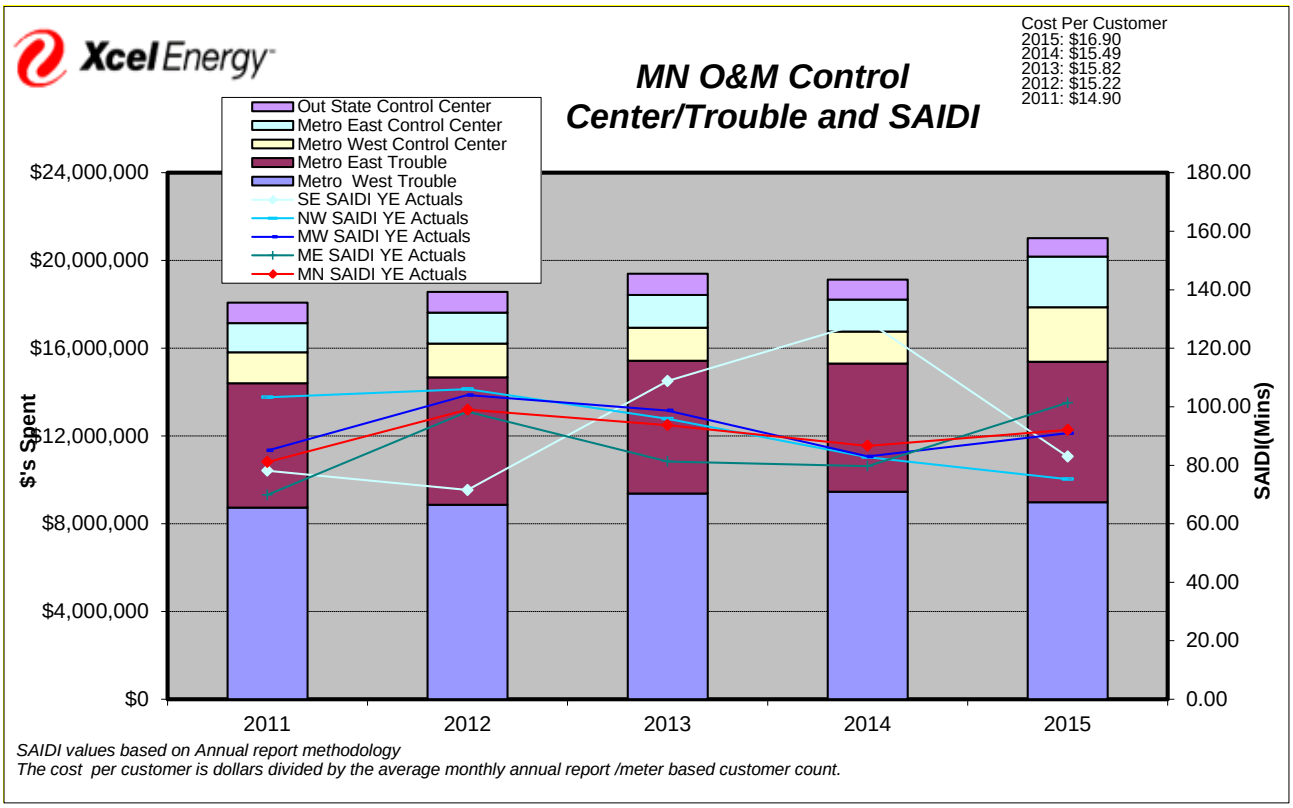
We provide below, graphs demonstrating these costs compared to both SAIDI and SAIFI for 2011-2015.

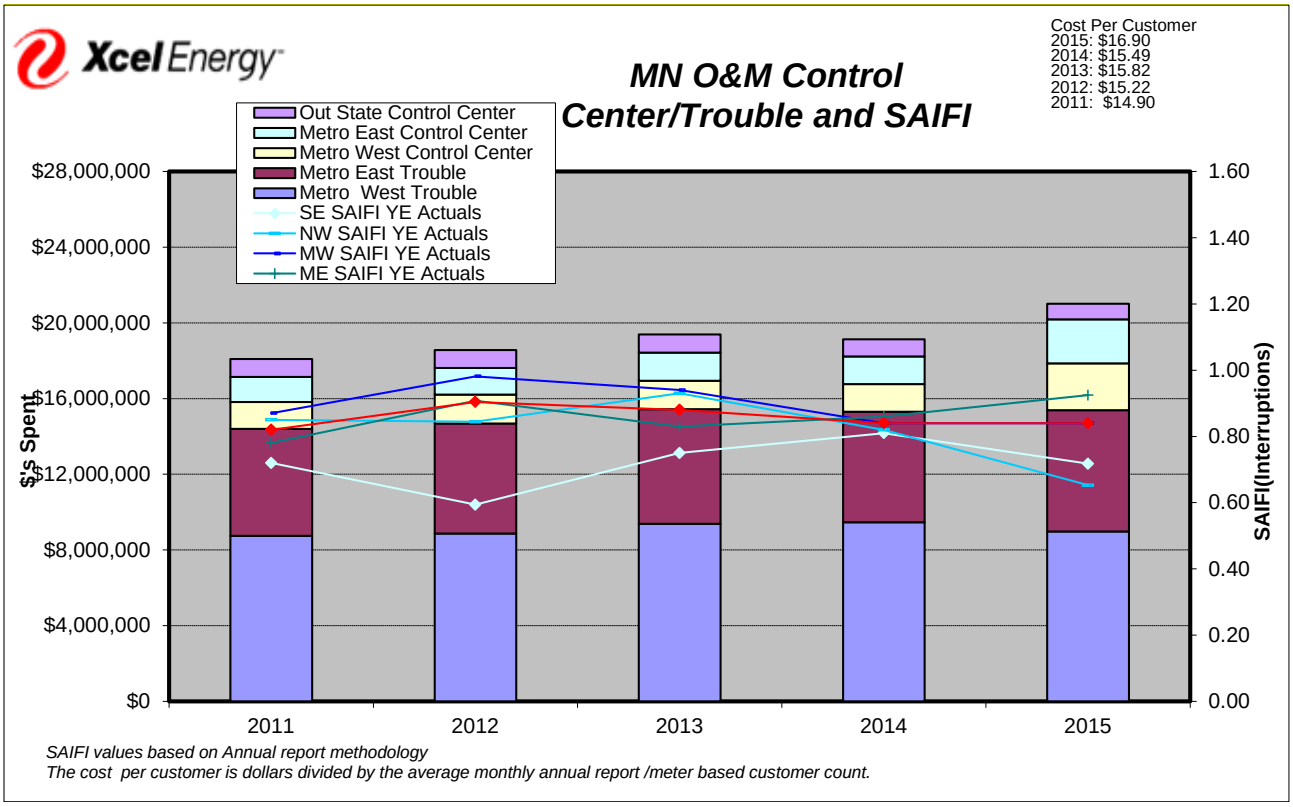
We note that we calculated the below Minnesota O&M Control Center/Trouble costs using the actual expenses (labor, fleet, materials, and other) of the five business areas

whose primary responsibility is outage restoration and emergency response. We note that this includes dispatchers from North Dakota and South Dakota

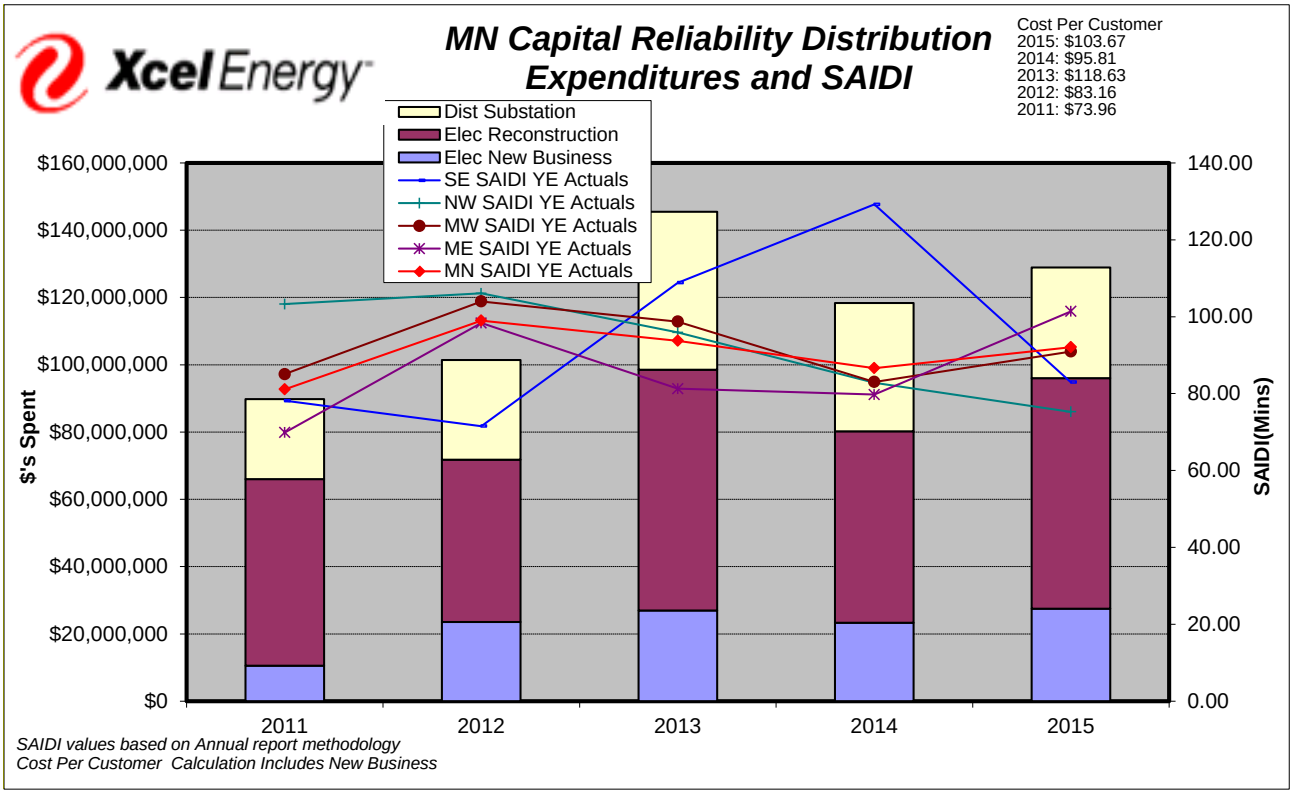
Additionally, we provide graphs demonstrating our SAIDI and SAIFI performance compared to our Capital Reliability Expenditures.

We note that the following capital expenditures include any dollars spent that *may* have an impact on reliability. For example, this would include capacity funding and capital projects, such as cable replacement and our FPIP. On the following graphs, "new business" indicates areas where we are not established and needed to install either overhead or underground lines and "reconstruction" is any rebuilding or construction that is related to existing customers.

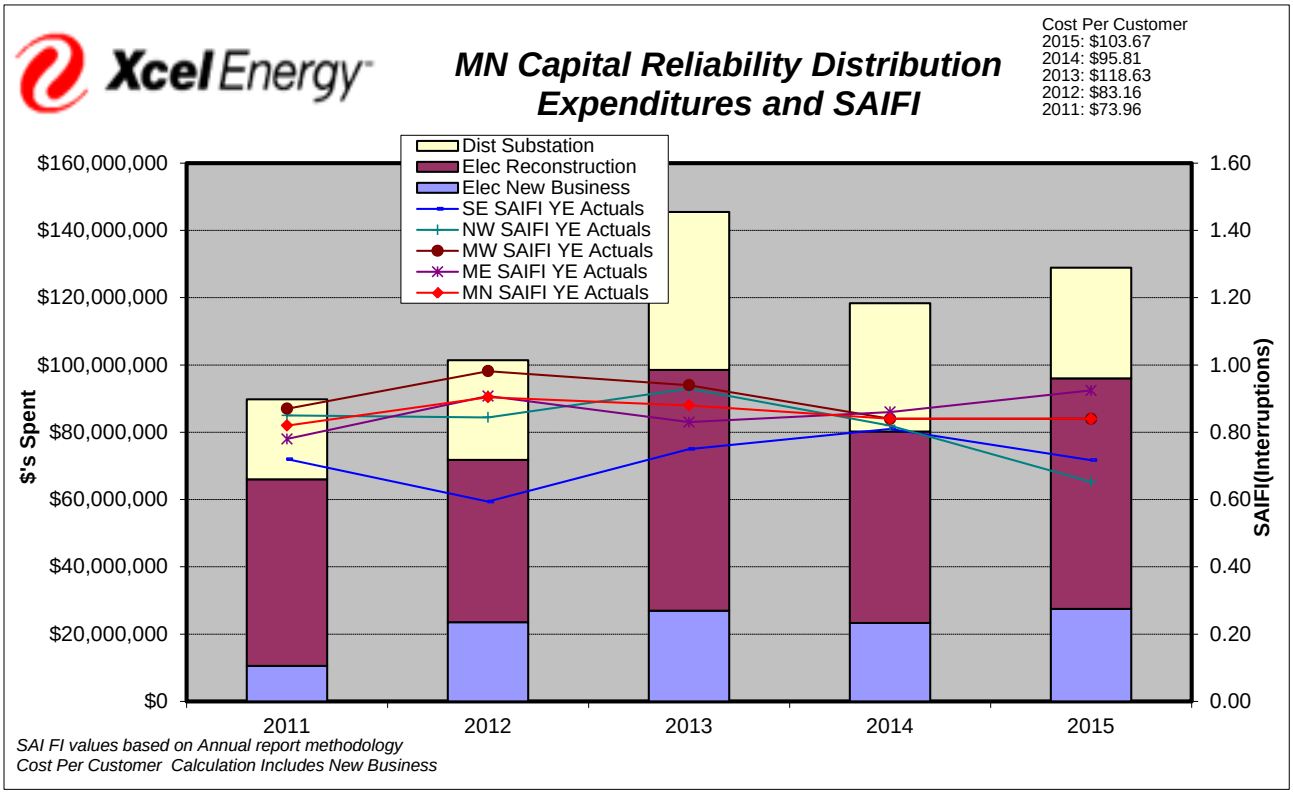





*SAIFI values based on Annual report methodology*
*The cost per customer is dollars divided by the average monthly annual report /meter based customer count.*




*SAIDI values based on Annual report methodology*
*Cost Per Customer Calculation Includes New Business*




## CEMI Tools

Xcel Energy developed tools that allow us to better track the causes of our CEMI (Customers Experiencing Multiple Interruptions). In conjunction with a mapping tool we can look at our customers' experience as it identifies customers with multiple outages over a revolving 12 months and then provide a visual representation of those outages in our service territory. Although, the metric measures customers who have experienced at least six sustained outages during non-storm days, we can study customers' experience earlier. This customer centric tool helps highlight customers that have had outages from different causes rather than a single root cause. In other words, this tool does not look at the device that caused the outage, it examines how many times a customer was out of service regardless of the reason.

These tools compliment other programs, such as the Reliability Management System (REMs) that help us identify specific equipment issues (for instance, the same device tripping multiple times). The CEMI tools provide the link from the outage information to the specific customer information on a holistic basis. Since much of our analysis has focused on a system perspective, this new tool really rounds out our reliability planning by helping focus on the customers' experience.

There are many reasons a customer could have an outage. These causes include downed trees, animal contact, a car hitting a pole, or even a lightning strike. Each one of these causes could show up on a different report for a different piece of equipment that all flow down to the same customer. These tools allow us to analyze customer experience *truly* from a customers' experience. These tools help our efforts in the long term to reduce repeated outages for customers.

Using these tools, we created the attached maps of our service territory. The first map, **Attachment M1,** is an overall view of our entire Minnesota service territory and the second view, **Attachment M2**, is a zoomed in version of that same map for the Twin Cities metro area. Both of these maps are interactive and the views can be zoomed in and out to make the data more meaningful. Green dots represent those feeders that did not have any customers experiencing more than five outages in 2015.

Notes about the Map:

- Data is based on the CEMI under performance measure requirement of customers experiencing greater than 5 outages in a single year.
- Bubbles are color coded based on the number of customers in that area that experienced greater than 5 outages.
- The geographic location of the bubble is not a precise location of an individual problem but rather generally indicates the area affected.
- Outages occurring on major event days (storm days) are not included as part of the customer outage experience indicated on the map.

## Conclusion

In summary, this document outlines the Company's reliability results, provides trend information, and correlates both the impact of outside forces, as well as the positive actions we have taken to achieve our results. We have summarized the processes and data that we use to determine areas of greatest impact, develop targeted investment strategies, ensure the execution of annual work plans, and assure reliability and ongoing satisfactory performance of the system as a whole. We know that positive results are a direct reflection of consistent and sustained focus, and as such, believe our RMP and other actions provide a solid foundation on which to deliver reliable performance of our distribution system.

NSPM CEMI 3 / 28 / 2016

## Legend
**Customers experiencing greater than 5 outages in 2015**

**MN 2015 Events Percent by Feeder**

**ColorCode**

- >0%<1%
- >1%<5%
- >10%
- No Customers

| NSPM Minnesota 2015 Distribution Circuit Feeder Performance | |
|---|---|
| 952 circuits | no customers experienced greater than 5 outages |
| 71 circuits | less than 1% of customers experienced greater than 5 outages |
| 15 circuits | 1%-5% of customers experienced greater than 5 outages |
| 0 circuits | 5%-10% of customers experienced greater than 5 outages |
| 1 circuits | 10% or more customers experienced greater than 5 outages |

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Dan Borchers 303-571-3661
Date Saved: 3/28/2016
Document Name: NSPM_Metro CEMI Service Quality2015Mn

**Color coding is representative of general outage experience in the area. It does not depict experience of anyone customer or set of customers. Outages occuring on a Major Event Day (storm) are not included in calculation.**

Source: US National Park Service

3/28/2016

NSP CEMI

Legend
Customers experiencing greater than 5 outages in 2015

MN 2015 Events Percent by Feeder
ColorCode
- >0%<1%
- >1%<5%
- >10%
- No Customers

Anoka
Washington
Ramsey
Hennepin
Carver
Dakota
Somerset
Hudson
Buffalo
Rockford
Montrose
Delano
Watertown
Waconia
Norwood Young America
Forest Lake
Prescott
Hastings
Minneapolis
St. Paul

| NSPM Minnesota 2015 Distribution Circuit Feeder Performance | |
|---|---|
| 952 circuits | no customers experienced greater than 5 outages |
| 71 circuits | less than 1% of customers experienced greater than 5 outages |
| 15 circuits | 1%-5% of customers experienced greater than 5 outages |
| 0 circuits | 5%-10% of customers experienced greater than 5 outages |
| 1 circuits | 10% or more customers experienced greater than 5 outages |

Color coding is representative of general outage experience in the area. It does not depict experience of anyone customer or set of customers. Outages occuring on a Major Event Day (storm) are not included in calculation.

Created by: XCEL GeoSpatial Projects
Dan Borchers 303-571-3661
Date Saved: 3/28/2016
Document Name: NSPM_Metro CEMI Service Quality2015Metro

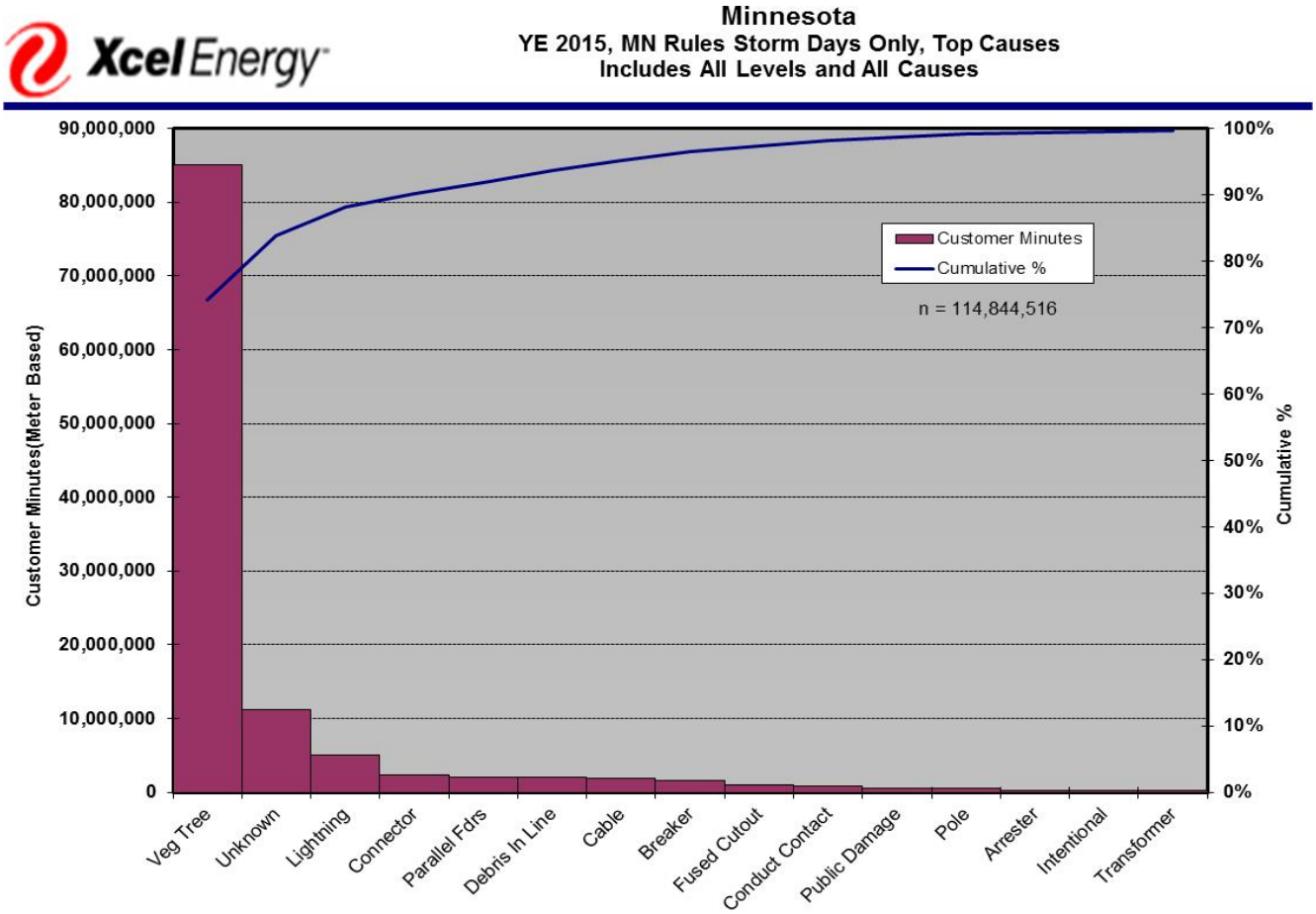
In this Attachment, we provide the following reliability-related information:

- Storm Day outage causes;
- "Near miss" storm days; and,
- Momentary Average Interruption Frequency Index (MAIFI) results.

In addition, in compliance with the Commission's Order issued September 3, 2013 in Docket No. E002/GR-12-961 and the commitment we made in our September 19, 2013 Final Rates Compliance filing in that docket, we provide additional reporting of currently available MAIFI data.

## I. Storm Day Outage Causes

The below graph shows the major causes of outages for storm days using our Annual Rules storm normalization methodology.



## II. "Near-Miss" Storm Days

Following are the "near-miss" storm days by work center, using our Annual Rules storm normalization methodology. These days came within 10-30 percent of the storm threshold, thus, they came *close* to being designated as storm days:

**Annual Rules Normalization - Near Miss Days**

| Region | Date | SAIDI on Days within 10% of Storm Threshold | SAIDI on Days within 10-20% of Storm Threshold | SAIDI on Days within 20-30% of Storm Threshold |
|---|---|---|---|---|
| Metro East | 7/12/2015 | | 7.6 | |
| Metro East | 6/22/2015 | | | 2.2 |
| Metro East | 8/22/2015 | | | 4.4 |
| ***Region Total Impact*** | | ***0.0*** | ***7.6*** | ***6.5*** |
| | | | | |
| Metro West | 7/12/2015 | | | 3.1 |
| Metro West | 7/19/2015 | | | 1.4 |
| ***Region Total Impact*** | | ***0.0*** | ***0.0*** | ***4.5*** |
| | | | | |
| Northwest | 7/12/2015 | | 7.6 | |
| ***Region Total Impact*** | | ***0.0*** | ***7.6*** | ***0.0*** |
| | | | | |
| Southeast | 4/1/2015 | | | 2.1 |
| ***Region Total Impact*** | | ***0.0*** | ***0.0*** | ***2.1*** |
| | | | | |
| **MN Total Impact** | | ***0.0*** | ***3.2*** | ***4.5*** |

* SAIDI impacts based on individual regional impacts.
* MN Total based on overall state impacts. Not the additive of individual regional impacts.

## III. MAIFI Results

The following 2015 MAIFI reporting provides the MAIFI calculation for our SCADA-enabled Feeder-level protection devices that have operated within a five minute time period, using the IEEE Momentary Interruption Event definition.

Generally, momentary outage information is available at the Feeder-level and above, by Feeder circuit, and only on Feeders that are located in substations with Supervisory Control and Data Acquisition (SCADA) capability. With current distribution infrastructure, we are able to report MAIFI at the distribution Feeder level for approximately 92 percent of our retail customers.

Below are our 2015 MAIFI results followed by definitions of the calculation methodologies we applied:

**2015 MAIFI Results**

| Region | Non-Normalized | Xcel Energy QSP Tariff | Xcel Energy Annual Rules |
|---|---|---|---|
| Minnesota | 0.86 | 0.62 | 0.79 |
| Metro East | 0.89 | 0.81 | 0.83 |
| Metro West | 0.73 | 0.55 | 0.64 |
| Northwest | 1.44 | 0.69 | 1.32 |
| Southeast | 0.88 | 0.32 | 0.83 |

*Non-normalized*

- Includes outages occurring at all levels (distribution, substation, and transmission).
- Includes all outage cause codes.
- Calculations are based on the number of customers' billing accounts and meters.
- Include all days in calculations.

*Xcel Energy (Quality of Service Plan Tariff Method)*

- Excludes outages occurring at Transmission Line level.
- Includes all outage cause codes.
- Calculations are based on the number of customers' billing accounts and meters.
- Excludes all storm days that qualify under IEEE 2.5 normalization method after removing Transmission Line level.

*Xcel Energy (Annual Rules Method)*

- Includes outages occurring at all levels (distribution, substation, and transmission).
- Includes all outage cause codes.
- Calculations are based on the number of customers' billing accounts and meters.
- Excludes all storm days that qualify under Annual normalization method.

We have included the following five additional MAIFI reports as **Attachment N1,** in compliance with the Commission's Order issued September 3, 2013 in Docket No. E002/GR-12-961 and the template we provided in our September 19, 2013 Final

Rates Compliance filing in that docket:

1. A table with annual MAIFI results for Minnesota and our four work centers using three different normalization methodologies;
2. A table with the MAIFI results and Customer Interruptions by month and by work center;
3. A five-year historical look for Minnesota MAIFI that shows the three different normalization methodologies and their associated trend lines;
4. A pareto chart showing the top causes for interruptions for the current year; and
5. A pareto chart showing the top causes for interruptions for the past five years.

Our system capabilities and procedures have changed and evolved over time. Therefore, the historical MAIFI results will be based on what our protocol and physical capabilities were for capturing momentary events at that point in time.

**With Storms - All Levels, All Causes**

| MAIFI(<=5Mins) | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|
| Metro East | 0.80 | 0.95 | 0.97 | 0.70 | 0.89 |
| Metro West | 0.89 | 1.01 | 0.87 | 0.82 | 0.73 |
| Northwest | 1.59 | 1.42 | 1.82 | 1.51 | 1.44 |
| Southeast | 1.09 | 1.08 | 0.89 | 1.20 | 0.88 |
| **Minnesota** | 0.95 | 1.04 | 1.00 | 0.89 | 0.86 |

**New Tariff - No Transmission Line, All Causes**

| MAIFI(<=5Mins) | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|
| Metro East | 0.59 | 0.81 | 0.77 | 0.55 | 0.81 |
| Metro West | 0.52 | 0.76 | 0.65 | 0.67 | 0.55 |
| Northwest | 0.38 | 0.96 | 0.67 | 0.81 | 0.69 |
| Southeast | 0.22 | 0.37 | 0.35 | 0.34 | 0.32 |
| **Minnesota** | 0.50 | 0.76 | 0.66 | 0.61 | 0.62 |

**Annual Rules - All Levels, All Causes**

| MAIFI(<=5Mins) | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|
| Metro East | 0.69 | 0.85 | 0.80 | 0.57 | 0.83 |
| Metro West | 0.72 | 0.96 | 0.77 | 0.80 | 0.64 |
| Northwest | 0.65 | 1.42 | 1.28 | 1.51 | 1.32 |
| Southeast | 0.87 | 0.95 | 0.78 | 0.98 | 0.83 |
| **Minnesota** | 0.72 | 0.97 | 0.83 | 0.81 | 0.79 |

**MAIFI - <= 5 Minutes Duration**

| Minnesota - MAIFI | January | February | March | April | May | June | July | August | September | October | November | December | YTD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2015 With Storms, All Levels, All Causes | 0.04 | 0.02 | 0.04 | 0.04 | 0.10 | 0.12 | 0.22 | 0.07 | 0.10 | 0.03 | 0.04 | 0.02 | 0.86 |
| New Tariff Normalized, No Trans Line, All Causes | 0.04 | 0.00 | 0.03 | 0.03 | 0.08 | 0.10 | 0.12 | 0.06 | 0.08 | 0.03 | 0.03 | 0.02 | 0.62 |
| Annual Normalized, All Levels, All Causes | 0.04 | 0.02 | 0.04 | 0.04 | 0.10 | 0.12 | 0.15 | 0.07 | 0.10 | 0.03 | 0.04 | 0.02 | 0.79 |
| 2014 With Storms, All Levels, All Causes | 0.04 | 0.09 | 0.03 | 0.07 | 0.15 | 0.16 | 0.06 | 0.10 | 0.07 | 0.05 | 0.05 | 0.03 | 0.89 |
| New Tariff Normalized, No Trans Line, All Causes | 0.04 | 0.04 | 0.02 | 0.05 | 0.10 | 0.10 | 0.05 | 0.07 | 0.05 | 0.04 | 0.03 | 0.02 | 0.61 |
| Annual Normalized, All Levels, All Causes | 0.04 | 0.06 | 0.03 | 0.07 | 0.15 | 0.11 | 0.06 | 0.10 | 0.07 | 0.05 | 0.05 | 0.03 | 0.81 |
| 2013 With Storms, All Levels, All Causes | 0.03 | 0.04 | 0.05 | 0.10 | 0.09 | 0.25 | 0.10 | 0.11 | 0.05 | 0.06 | 0.03 | 0.07 | 1.00 |
| New Tariff Normalized, No Trans Line, All Causes | 0.03 | 0.03 | 0.05 | 0.09 | 0.07 | 0.09 | 0.10 | 0.07 | 0.05 | 0.05 | 0.02 | 0.02 | 0.66 |
| Annual Normalized, All Levels, All Causes | 0.03 | 0.04 | 0.05 | 0.10 | 0.09 | 0.11 | 0.10 | 0.10 | 0.05 | 0.05 | 0.03 | 0.07 | 0.83 |
| 2012 With Storms, All Levels, All Causes | 0.02 | 0.03 | 0.08 | 0.08 | 0.15 | 0.19 | 0.13 | 0.14 | 0.08 | 0.05 | 0.03 | 0.04 | 1.04 |
| New Tariff Normalized, No Trans Line, All Causes | 0.02 | 0.03 | 0.06 | 0.07 | 0.13 | 0.11 | 0.09 | 0.08 | 0.08 | 0.05 | 0.02 | 0.03 | 0.76 |
| Annual Normalized, All Levels, All Causes | 0.02 | 0.02 | 0.08 | 0.08 | 0.15 | 0.15 | 0.12 | 0.13 | 0.08 | 0.05 | 0.03 | 0.04 | 0.97 |
| 2011 With Storms, All Levels, All Causes | 0.02 | 0.03 | 0.04 | 0.06 | 0.09 | 0.09 | 0.26 | 0.18 | 0.06 | 0.04 | 0.03 | 0.04 | 0.95 |
| New Tariff Normalized, No Trans Line, All Causes | 0.01 | 0.03 | 0.02 | 0.03 | 0.04 | 0.07 | 0.12 | 0.07 | 0.04 | 0.04 | 0.01 | 0.02 | 0.50 |
| Annual Normalized, All Levels, All Causes | 0.02 | 0.03 | 0.04 | 0.06 | 0.07 | 0.07 | 0.16 | 0.09 | 0.05 | 0.04 | 0.03 | 0.04 | 0.72 |

MAIFI - <= 5 Minutes Duration

| Metro East - MAIFI | January | February | March | April | May | June | July | August | September | October | November | December | YTD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2015 With Storms, All Levels, All Causes | 0.04 | 0.00 | 0.05 | 0.05 | 0.09 | 0.09 | 0.28 | 0.09 | 0.11 | 0.03 | 0.04 | 0.04 | 0.89 |
| New Tariff Normalized, No Trans Line, All Causes | 0.04 | 0.00 | 0.05 | 0.05 | 0.09 | 0.08 | 0.21 | 0.09 | 0.10 | 0.03 | 0.04 | 0.04 | 0.81 |
| Annual Normalized, All Levels, All Causes | 0.04 | 0.00 | 0.05 | 0.05 | 0.09 | 0.09 | 0.21 | 0.09 | 0.11 | 0.03 | 0.04 | 0.04 | 0.83 |
| 2014 With Storms, All Levels, All Causes | 0.04 | 0.06 | 0.02 | 0.05 | 0.10 | 0.16 | 0.07 | 0.04 | 0.02 | 0.03 | 0.08 | 0.02 | 0.70 |
| New Tariff Normalized, No Trans Line, All Causes | 0.04 | 0.01 | 0.02 | 0.05 | 0.10 | 0.08 | 0.07 | 0.04 | 0.02 | 0.03 | 0.06 | 0.02 | 0.55 |
| Annual Normalized, All Levels, All Causes | 0.04 | 0.01 | 0.02 | 0.05 | 0.10 | 0.08 | 0.07 | 0.04 | 0.02 | 0.03 | 0.08 | 0.02 | 0.57 |
| 2013 With Storms, All Levels, All Causes | 0.04 | 0.05 | 0.04 | 0.12 | 0.11 | 0.27 | 0.07 | 0.05 | 0.09 | 0.05 | 0.03 | 0.04 | 0.97 |
| New Tariff Normalized, No Trans Line, All Causes | 0.04 | 0.04 | 0.04 | 0.12 | 0.10 | 0.10 | 0.07 | 0.05 | 0.09 | 0.05 | 0.03 | 0.04 | 0.77 |
| Annual Normalized, All Levels, All Causes | 0.04 | 0.05 | 0.04 | 0.12 | 0.11 | 0.10 | 0.07 | 0.05 | 0.09 | 0.05 | 0.03 | 0.04 | 0.80 |
| 2012 With Storms, All Levels, All Causes | 0.02 | 0.02 | 0.07 | 0.11 | 0.11 | 0.19 | 0.11 | 0.14 | 0.07 | 0.04 | 0.02 | 0.03 | 0.95 |
| New Tariff Normalized, No Trans Line, All Causes | 0.02 | 0.02 | 0.07 | 0.11 | 0.11 | 0.13 | 0.09 | 0.10 | 0.07 | 0.04 | 0.00 | 0.03 | 0.81 |
| Annual Normalized, All Levels, All Causes | 0.02 | 0.01 | 0.07 | 0.11 | 0.11 | 0.13 | 0.10 | 0.13 | 0.07 | 0.04 | 0.02 | 0.03 | 0.85 |
| 2011 With Storms, All Levels, All Causes | 0.04 | 0.01 | 0.05 | 0.04 | 0.08 | 0.09 | 0.23 | 0.10 | 0.09 | 0.02 | 0.01 | 0.04 | 0.80 |
| New Tariff Normalized, No Trans Line, All Causes | 0.01 | 0.01 | 0.03 | 0.04 | 0.07 | 0.09 | 0.15 | 0.10 | 0.05 | 0.02 | 0.00 | 0.02 | 0.59 |
| Annual Normalized, All Levels, All Causes | 0.04 | 0.01 | 0.05 | 0.04 | 0.08 | 0.09 | 0.17 | 0.05 | 0.09 | 0.02 | 0.01 | 0.04 | 0.69 |

MAIFI - <= 5 Minutes Duration

| Metro West - MAIFI | January | February | March | April | May | June | July | August | September | October | November | December | YTD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2015 With Storms, All Levels, All Causes | 0.03 | 0.04 | 0.02 | 0.02 | 0.10 | 0.14 | 0.16 | 0.06 | 0.08 | 0.04 | 0.03 | 0.00 | 0.73 |
| New Tariff Normalized, No Trans Line, All Causes | 0.03 | 0.01 | 0.01 | 0.02 | 0.08 | 0.14 | 0.08 | 0.05 | 0.05 | 0.04 | 0.03 | 0.00 | 0.55 |
| Annual Normalized, All Levels, All Causes | 0.03 | 0.04 | 0.02 | 0.02 | 0.10 | 0.14 | 0.08 | 0.06 | 0.08 | 0.04 | 0.03 | 0.00 | 0.64 |
| 2014 With Storms, All Levels, All Causes | 0.01 | 0.08 | 0.03 | 0.06 | 0.15 | 0.14 | 0.06 | 0.12 | 0.09 | 0.05 | 0.02 | 0.02 | 0.82 |
| New Tariff Normalized, No Trans Line, All Causes | 0.01 | 0.07 | 0.03 | 0.06 | 0.09 | 0.11 | 0.05 | 0.08 | 0.09 | 0.05 | 0.02 | 0.02 | 0.67 |
| Annual Normalized, All Levels, All Causes | 0.01 | 0.08 | 0.03 | 0.06 | 0.15 | 0.11 | 0.06 | 0.12 | 0.09 | 0.05 | 0.02 | 0.02 | 0.80 |
| 2013 With Storms, All Levels, All Causes | 0.02 | 0.02 | 0.05 | 0.07 | 0.06 | 0.18 | 0.15 | 0.16 | 0.03 | 0.05 | 0.03 | 0.06 | 0.87 |
| New Tariff Normalized, No Trans Line, All Causes | 0.02 | 0.02 | 0.05 | 0.05 | 0.06 | 0.09 | 0.13 | 0.09 | 0.03 | 0.05 | 0.02 | 0.02 | 0.65 |
| Annual Normalized, All Levels, All Causes | 0.02 | 0.02 | 0.05 | 0.07 | 0.06 | 0.11 | 0.15 | 0.13 | 0.03 | 0.05 | 0.03 | 0.06 | 0.77 |
| 2012 With Storms, All Levels, All Causes | 0.02 | 0.05 | 0.11 | 0.06 | 0.14 | 0.18 | 0.09 | 0.13 | 0.11 | 0.06 | 0.05 | 0.02 | 1.01 |
| New Tariff Normalized, No Trans Line, All Causes | 0.02 | 0.04 | 0.06 | 0.04 | 0.13 | 0.11 | 0.07 | 0.08 | 0.09 | 0.06 | 0.05 | 0.02 | 0.76 |
| Annual Normalized, All Levels, All Causes | 0.02 | 0.04 | 0.11 | 0.06 | 0.14 | 0.16 | 0.09 | 0.11 | 0.11 | 0.06 | 0.05 | 0.02 | 0.96 |
| 2011 With Storms, All Levels, All Causes | 0.02 | 0.04 | 0.03 | 0.09 | 0.11 | 0.06 | 0.25 | 0.10 | 0.06 | 0.06 | 0.03 | 0.04 | 0.89 |
| New Tariff Normalized, No Trans Line, All Causes | 0.02 | 0.04 | 0.02 | 0.03 | 0.02 | 0.05 | 0.12 | 0.06 | 0.06 | 0.06 | 0.01 | 0.03 | 0.52 |
| Annual Normalized, All Levels, All Causes | 0.02 | 0.04 | 0.03 | 0.09 | 0.08 | 0.04 | 0.19 | 0.06 | 0.05 | 0.06 | 0.03 | 0.04 | 0.72 |

MAIFI - <= 5 Minutes Duration

| Northwest - MAIFI | January | February | March | April | May | June | July | August | September | October | November | December | YTD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2015 With Storms, All Levels, All Causes | 0.10 | 0.02 | 0.16 | 0.08 | 0.16 | 0.15 | 0.37 | 0.07 | 0.23 | 0.01 | 0.05 | 0.05 | 1.44 |
| New Tariff Normalized, No Trans Line, All Causes | 0.07 | 0.01 | 0.05 | 0.04 | 0.09 | 0.04 | 0.16 | 0.03 | 0.15 | 0.01 | 0.01 | 0.03 | 0.69 |
| Annual Normalized, All Levels, All Causes | 0.10 | 0.02 | 0.16 | 0.08 | 0.16 | 0.15 | 0.25 | 0.07 | 0.23 | 0.01 | 0.05 | 0.05 | 1.32 |
| 2014 With Storms, All Levels, All Causes | 0.20 | 0.08 | 0.04 | 0.21 | 0.24 | 0.27 | 0.08 | 0.25 | 0.05 | 0.04 | 0.01 | 0.04 | 1.51 |
| New Tariff Normalized, No Trans Line, All Causes | 0.20 | 0.03 | 0.04 | 0.06 | 0.15 | 0.14 | 0.00 | 0.10 | 0.00 | 0.04 | 0.00 | 0.04 | 0.81 |
| Annual Normalized, All Levels, All Causes | 0.20 | 0.08 | 0.04 | 0.21 | 0.24 | 0.27 | 0.08 | 0.25 | 0.05 | 0.04 | 0.01 | 0.04 | 1.51 |
| 2013 With Storms, All Levels, All Causes | 0.08 | 0.10 | 0.10 | 0.20 | 0.18 | 0.65 | 0.04 | 0.15 | 0.05 | 0.09 | 0.01 | 0.16 | 1.82 |
| New Tariff Normalized, No Trans Line, All Causes | 0.05 | 0.03 | 0.09 | 0.16 | 0.10 | 0.06 | 0.04 | 0.04 | 0.03 | 0.06 | 0.00 | 0.01 | 0.67 |
| Annual Normalized, All Levels, All Causes | 0.08 | 0.10 | 0.10 | 0.20 | 0.18 | 0.11 | 0.04 | 0.15 | 0.05 | 0.09 | 0.01 | 0.16 | 1.28 |
| 2012 With Storms, All Levels, All Causes | 0.02 | 0.00 | 0.03 | 0.16 | 0.35 | 0.26 | 0.20 | 0.12 | 0.06 | 0.05 | 0.01 | 0.16 | 1.42 |
| New Tariff Normalized, No Trans Line, All Causes | 0.02 | 0.00 | 0.03 | 0.11 | 0.26 | 0.13 | 0.11 | 0.05 | 0.06 | 0.05 | 0.01 | 0.12 | 0.96 |
| Annual Normalized, All Levels, All Causes | 0.02 | 0.00 | 0.03 | 0.16 | 0.35 | 0.26 | 0.20 | 0.12 | 0.06 | 0.05 | 0.01 | 0.16 | 1.42 |
| 2011 With Storms, All Levels, All Causes | 0.04 | 0.04 | 0.02 | 0.05 | 0.06 | 0.12 | 0.40 | 0.72 | 0.00 | 0.04 | 0.07 | 0.04 | 1.59 |
| New Tariff Normalized, No Trans Line, All Causes | 0.00 | 0.01 | 0.00 | 0.02 | 0.00 | 0.09 | 0.15 | 0.08 | 0.00 | 0.01 | 0.02 | 0.00 | 0.38 |
| Annual Normalized, All Levels, All Causes | 0.04 | 0.04 | 0.02 | 0.05 | 0.02 | 0.09 | 0.10 | 0.15 | 0.00 | 0.04 | 0.07 | 0.04 | 0.65 |

MAIFI - <= 5 Minutes Duration

| Southeast - MAIFI | January | February | March | April | May | June | July | August | September | October | November | December | YTD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2015 With Storms, All Levels, All Causes | 0.04 | 0.06 | 0.05 | 0.06 | 0.10 | 0.11 | 0.16 | 0.07 | 0.10 | 0.04 | 0.08 | 0.01 | 0.88 |
| New Tariff Normalized, No Trans Line, All Causes | 0.00 | 0.00 | 0.01 | 0.03 | 0.02 | 0.05 | 0.03 | 0.03 | 0.06 | 0.04 | 0.04 | 0.00 | 0.32 |
| Annual Normalized, All Levels, All Causes | 0.04 | 0.06 | 0.05 | 0.06 | 0.10 | 0.06 | 0.16 | 0.07 | 0.10 | 0.04 | 0.08 | 0.01 | 0.83 |
| 2014 With Storms, All Levels, All Causes | 0.02 | 0.25 | 0.02 | 0.01 | 0.19 | 0.14 | 0.02 | 0.07 | 0.11 | 0.13 | 0.15 | 0.10 | 1.20 |
| New Tariff Normalized, No Trans Line, All Causes | 0.01 | 0.01 | 0.00 | 0.00 | 0.07 | 0.04 | 0.02 | 0.04 | 0.05 | 0.08 | 0.00 | 0.02 | 0.34 |
| Annual Normalized, All Levels, All Causes | 0.02 | 0.10 | 0.02 | 0.01 | 0.19 | 0.08 | 0.02 | 0.05 | 0.11 | 0.13 | 0.15 | 0.10 | 0.98 |
| 2013 With Storms, All Levels, All Causes | 0.04 | 0.03 | 0.00 | 0.12 | 0.12 | 0.11 | 0.10 | 0.06 | 0.03 | 0.09 | 0.02 | 0.15 | 0.89 |
| New Tariff Normalized, No Trans Line, All Causes | 0.02 | 0.02 | 0.00 | 0.09 | 0.03 | 0.01 | 0.06 | 0.03 | 0.03 | 0.03 | 0.01 | 0.01 | 0.35 |
| Annual Normalized, All Levels, All Causes | 0.04 | 0.03 | 0.00 | 0.12 | 0.06 | 0.11 | 0.09 | 0.06 | 0.03 | 0.06 | 0.02 | 0.15 | 0.78 |
| 2012 With Storms, All Levels, All Causes | 0.05 | 0.00 | 0.07 | 0.00 | 0.17 | 0.16 | 0.30 | 0.20 | 0.04 | 0.04 | 0.04 | 0.00 | 1.08 |
| New Tariff Normalized, No Trans Line, All Causes | 0.05 | 0.00 | 0.00 | 0.00 | 0.04 | 0.04 | 0.11 | 0.05 | 0.03 | 0.04 | 0.00 | 0.00 | 0.37 |
| Annual Normalized, All Levels, All Causes | 0.05 | 0.00 | 0.07 | 0.00 | 0.17 | 0.07 | 0.30 | 0.19 | 0.03 | 0.04 | 0.04 | 0.00 | 0.95 |
| 2011 With Storms, All Levels, All Causes | 0.00 | 0.03 | 0.05 | 0.04 | 0.03 | 0.19 | 0.29 | 0.30 | 0.00 | 0.01 | 0.09 | 0.05 | 1.09 |
| New Tariff Normalized, No Trans Line, All Causes | 0.00 | 0.00 | 0.01 | 0.00 | 0.02 | 0.06 | 0.02 | 0.06 | 0.00 | 0.01 | 0.01 | 0.02 | 0.22 |
| Annual Normalized, All Levels, All Causes | 0.00 | 0.03 | 0.05 | 0.04 | 0.03 | 0.17 | 0.10 | 0.30 | 0.00 | 0.01 | 0.09 | 0.05 | 0.87 |

MAIFI - <= 5 Minutes Duration

| Minnesota - Customer Interruptions | January | February | March | April | May | June | July | August | September | October | November | December | YTD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2015 With Storms, All Levels, All Causes | 53,648 | 30,726 | 55,959 | 48,043 | 127,125 | 150,889 | 273,326 | 87,827 | 129,712 | 42,223 | 51,256 | 23,201 | 1,073,935 |
| New Tariff Normalized, No Trans Line, All Causes | 44,306 | 5,906 | 33,165 | 38,443 | 98,512 | 127,693 | 151,499 | 73,873 | 95,202 | 42,223 | 41,385 | 20,869 | 773,076 |
| Annual Normalized, All Levels, All Causes | 53,648 | 30,726 | 55,959 | 48,043 | 127,125 | 145,355 | 181,747 | 87,827 | 129,712 | 42,223 | 51,256 | 23,201 | 976,822 |
| CES Cust Served | 1,240,765 | 1,243,499 | 1,244,176 | 1,244,298 | 1,243,059 | 1,242,418 | 1,242,902 | 1,243,049 | 1,243,408 | 1,244,577 | 1,245,663 | 1,247,112 | |
| 2014 With Storms, All Levels, All Causes | 51,425 | 109,574 | 31,286 | 83,684 | 179,745 | 194,907 | 75,353 | 125,483 | 81,552 | 60,308 | 61,666 | 39,682 | 1,094,665 |
| New Tariff Normalized, No Trans Line, All Causes | 49,036 | 48,807 | 28,982 | 61,123 | 117,403 | 119,732 | 58,512 | 85,015 | 67,369 | 54,991 | 33,106 | 26,887 | 750,963 |
| Annual Normalized, All Levels, All Causes | 51,425 | 72,087 | 31,286 | 83,684 | 179,745 | 139,794 | 75,353 | 122,714 | 81,552 | 60,308 | 61,666 | 39,682 | 999,296 |
| CES Cust Served | 1,231,703 | 1,232,212 | 1,234,076 | 1,234,577 | 1,233,718 | 1,233,259 | 1,234,483 | 1,235,520 | 1,236,117 | 1,237,649 | 1,238,571 | 1,239,207 | |
| 2013 With Storms, All Levels, All Causes | 41,377 | 50,759 | 60,258 | 126,599 | 114,691 | 300,256 | 127,829 | 138,192 | 63,215 | 68,852 | 36,139 | 87,140 | 1,215,307 |
| New Tariff Normalized, No Trans Line, All Causes | 34,756 | 37,653 | 59,557 | 108,798 | 90,004 | 103,795 | 115,930 | 84,449 | 57,098 | 57,650 | 25,936 | 28,583 | 804,209 |
| Annual Normalized, All Levels, All Causes | 41,377 | 50,759 | 60,258 | 124,501 | 107,258 | 128,206 | 126,006 | 120,234 | 63,215 | 65,498 | 36,139 | 87,140 | 1,010,591 |
| CES Cust Served | 1,217,604 | 1,218,204 | 1,219,026 | 1,219,379 | 1,218,531 | 1,218,072 | 1,218,582 | 1,218,899 | 1,219,310 | 1,220,894 | 1,221,687 | 1,222,327 | |
| 2012 With Storms, All Levels, All Causes | 27,803 | 34,536 | 102,984 | 97,500 | 187,066 | 227,323 | 157,721 | 170,945 | 103,140 | 64,880 | 42,420 | 45,544 | 1,261,862 |
| New Tariff Normalized, No Trans Line, All Causes | 27,803 | 31,244 | 67,550 | 81,281 | 154,532 | 135,931 | 104,772 | 98,842 | 93,541 | 64,329 | 28,593 | 37,107 | 925,525 |
| Annual Normalized, All Levels, All Causes | 27,803 | 28,373 | 102,984 | 97,500 | 187,066 | 178,479 | 151,053 | 154,352 | 101,159 | 64,880 | 42,420 | 45,544 | 1,181,613 |
| CES Cust Served | 1,217,604 | 1,218,204 | 1,219,026 | 1,219,379 | 1,218,531 | 1,218,072 | 1,218,582 | 1,218,899 | 1,219,310 | 1,220,894 | 1,221,687 | 1,222,327 | |
| 2011 With Storms, All Levels, All Causes | 26,901 | 37,715 | 45,283 | 77,141 | 107,411 | 107,776 | 314,468 | 221,781 | 68,865 | 48,560 | 41,812 | 49,261 | 1,146,974 |
| New Tariff Normalized, No Trans Line, All Causes | 13,486 | 31,385 | 25,285 | 34,935 | 45,292 | 82,372 | 146,336 | 87,801 | 52,280 | 44,780 | 10,106 | 30,173 | 604,231 |
| Annual Normalized, All Levels, All Causes | 26,901 | 37,715 | 45,283 | 77,141 | 84,172 | 89,081 | 199,599 | 107,383 | 62,176 | 48,560 | 41,812 | 49,261 | 869,084 |
| CES Cust Served | 1,212,838 | 1,213,598 | 1,213,870 | 1,213,718 | 1,213,054 | 1,212,361 | 1,212,745 | 1,213,005 | 1,213,888 | 1,214,808 | 1,215,579 | 1,216,748 | |

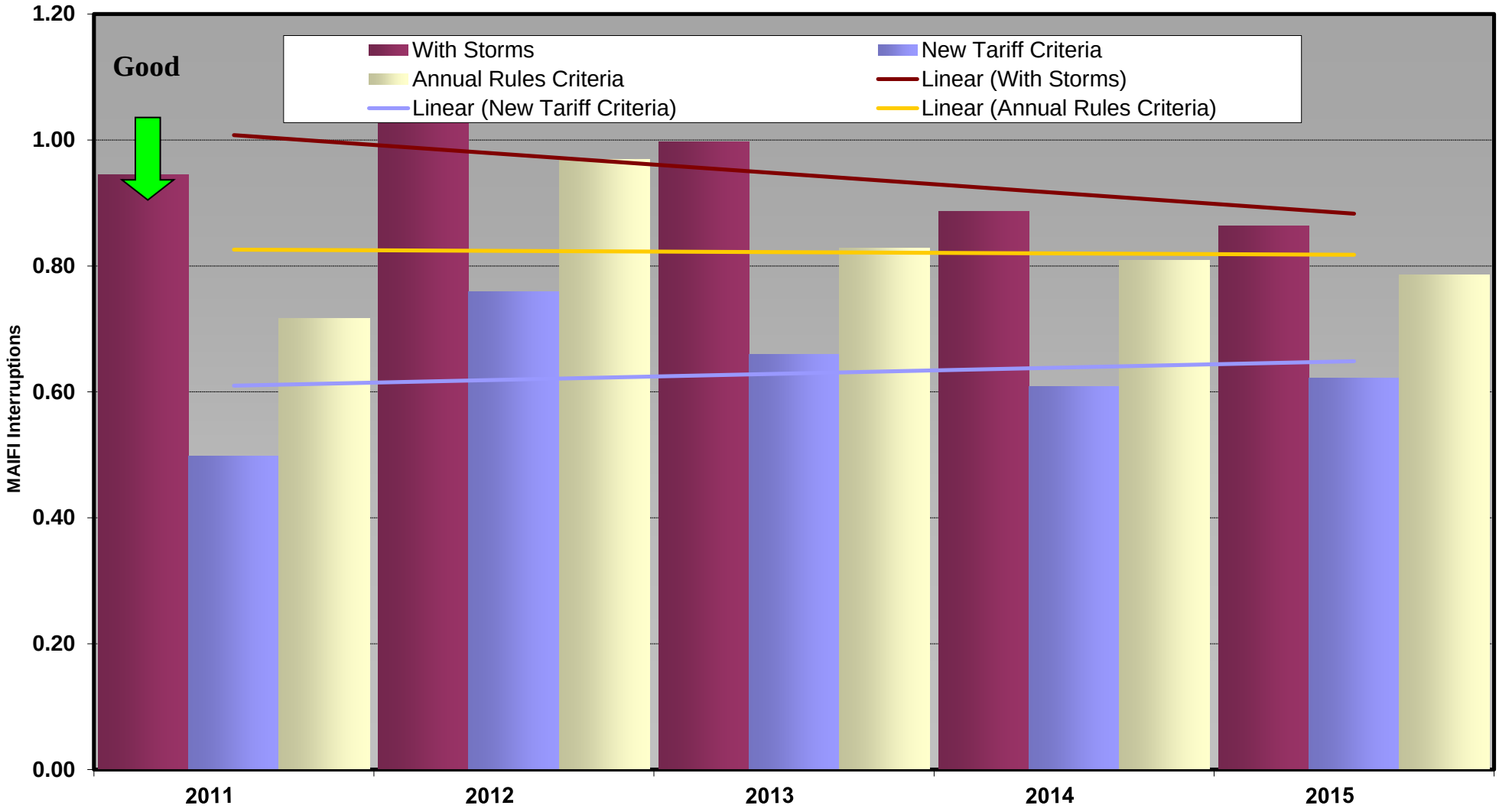
| Metro East - Customer Interruptions | January | February | March | April | May | June | July | August | September | October | November | December | YTD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2015 With Storms, All Levels, All Causes | 16,105 | 96 | 18,601 | 18,599 | 37,233 | 35,887 | 113,389 | 36,108 | 44,337 | 13,870 | 15,477 | 15,312 | 365,014 |
| New Tariff Normalized, No Trans Line, All Causes | 16,105 | 96 | 18,601 | 18,599 | 37,233 | 32,726 | 84,999 | 36,108 | 41,180 | 13,870 | 15,352 | 15,312 | 330,181 |
| Annual Normalized, All Levels, All Causes | 16,105 | 96 | 18,601 | 18,599 | 37,233 | 35,887 | 85,708 | 36,108 | 44,337 | 13,870 | 15,477 | 15,312 | 337,333 |
| CES Cust Served | 408,325 | 408,859 | 409,140 | 409,169 | 408,830 | 408,530 | 408,590 | 408,804 | 408,893 | 409,248 | 409,466 | 410,136 | |
| 2014 With Storms, All Levels, All Causes | 17,785 | 24,419 | 8,617 | 21,651 | 39,547 | 66,289 | 27,386 | 18,159 | 7,948 | 11,472 | 31,248 | 9,845 | 284,366 |
| New Tariff Normalized, No Trans Line, All Causes | 17,785 | 5,324 | 8,617 | 21,651 | 39,547 | 34,170 | 27,386 | 18,159 | 7,948 | 11,472 | 22,587 | 7,397 | 222,043 |
| Annual Normalized, All Levels, All Causes | 17,785 | 5,324 | 8,617 | 21,651 | 39,547 | 34,170 | 27,386 | 18,159 | 7,948 | 11,472 | 31,248 | 9,845 | 233,152 |
| CES Cust Served | 405,168 | 405,513 | 406,266 | 406,476 | 406,280 | 406,118 | 406,328 | 406,609 | 406,781 | 407,216 | 407,552 | 407,915 | |
| 2013 With Storms, All Levels, All Causes | 17,691 | 21,577 | 16,627 | 49,307 | 44,434 | 106,410 | 26,547 | 21,835 | 37,927 | 18,819 | 13,534 | 14,335 | 389,043 |
| New Tariff Normalized, No Trans Line, All Causes | 17,691 | 18,012 | 16,627 | 49,307 | 39,834 | 41,338 | 26,547 | 21,835 | 34,170 | 18,819 | 10,738 | 14,335 | 309,253 |
| Annual Normalized, All Levels, All Causes | 17,691 | 21,577 | 16,627 | 47,209 | 44,434 | 41,280 | 26,547 | 21,835 | 37,927 | 18,819 | 13,534 | 14,335 | 321,815 |
| CES Cust Served | 401,230 | 401,501 | 401,871 | 402,068 | 401,714 | 401,535 | 401,482 | 401,644 | 401,861 | 402,237 | 402,471 | 402,927 | |
| 2012 With Storms, All Levels, All Causes | 9,429 | 7,657 | 29,988 | 44,236 | 45,887 | 75,216 | 45,177 | 55,701 | 29,928 | 17,646 | 8,524 | 13,069 | 382,458 |
| New Tariff Normalized, No Trans Line, All Causes | 9,429 | 7,657 | 29,988 | 44,236 | 45,887 | 50,292 | 37,309 | 41,817 | 29,928 | 17,646 | 1 | 13,069 | 327,259 |
| Annual Normalized, All Levels, All Causes | 9,429 | 4,786 | 29,988 | 44,236 | 45,887 | 50,292 | 38,509 | 50,798 | 29,928 | 17,646 | 8,524 | 13,069 | 343,092 |
| CES Cust Served | 401,230 | 401,501 | 401,871 | 402,068 | 401,714 | 401,535 | 401,482 | 401,644 | 401,861 | 402,237 | 402,471 | 402,927 | |
| 2011 With Storms, All Levels, All Causes | 14,026 | 5,853 | 18,212 | 16,531 | 32,944 | 36,717 | 90,513 | 41,654 | 34,921 | 6,655 | 3,330 | 17,534 | 318,890 |
| New Tariff Normalized, No Trans Line, All Causes | 4,766 | 5,853 | 12,511 | 16,448 | 29,296 | 36,717 | 60,931 | 38,188 | 18,336 | 6,655 | 43 | 7,369 | 237,113 |
| Annual Normalized, All Levels, All Causes | 14,026 | 5,853 | 18,212 | 16,531 | 32,944 | 36,717 | 68,236 | 19,451 | 34,921 | 6,655 | 3,330 | 17,534 | 274,410 |
| CES Cust Served | 399,516 | 399,834 | 399,941 | 399,885 | 399,856 | 399,569 | 399,678 | 399,623 | 399,896 | 400,093 | 400,417 | 400,875 | |

| Metro West - Customer Interruptions | January | February | March | April | May | June | July | August | September | October | November | December | YTD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2015 With Storms, All Levels, All Causes | 20,248 | 20,802 | 12,793 | 12,377 | 58,604 | 83,970 | 95,498 | 35,098 | 44,974 | 22,670 | 19,724 | 1,539 | 428,297 |
| New Tariff Normalized, No Trans Line, All Causes | 20,026 | 4,566 | 7,306 | 11,263 | 48,212 | 83,970 | 44,452 | 29,636 | 28,777 | 22,670 | 19,724 | 1,539 | 322,141 |
| Annual Normalized, All Levels, All Causes | 20,248 | 20,802 | 12,793 | 12,377 | 58,604 | 83,970 | 46,157 | 35,098 | 44,974 | 22,670 | 19,724 | 1,539 | 378,956 |
| CES Cust Served | 588,110 | 590,082 | 590,398 | 590,516 | 590,066 | 589,627 | 590,093 | 589,851 | 589,987 | 590,525 | 591,304 | 591,872 | |
| 2014 With Storms, All Levels, All Causes | 7,411 | 44,827 | 15,601 | 36,712 | 88,611 | 79,703 | 36,033 | 69,195 | 53,337 | 28,313 | 10,034 | 12,011 | 481,788 |
| New Tariff Normalized, No Trans Line, All Causes | 7,411 | 38,344 | 15,601 | 32,285 | 51,254 | 64,184 | 28,749 | 49,688 | 53,337 | 28,313 | 10,034 | 12,011 | 391,211 |
| Annual Normalized, All Levels, All Causes | 7,411 | 44,827 | 15,601 | 36,712 | 88,611 | 64,184 | 36,033 | 69,195 | 53,337 | 28,313 | 10,034 | 12,011 | 466,269 |
| CES Cust Served | 583,345 | 583,434 | 584,207 | 584,437 | 584,033 | 583,979 | 584,821 | 585,482 | 585,739 | 586,543 | 587,045 | 587,179 | |
| 2013 With Storms, All Levels, All Causes | 9,069 | 12,973 | 31,592 | 38,102 | 34,675 | 104,623 | 83,557 | 90,881 | 15,726 | 28,293 | 18,748 | 35,661 | 503,900 |
| New Tariff Normalized, No Trans Line, All Causes | 9,069 | 12,973 | 31,592 | 29,691 | 34,675 | 54,484 | 76,404 | 54,616 | 15,726 | 28,293 | 13,612 | 12,249 | 373,384 |
| Annual Normalized, All Levels, All Causes | 9,069 | 12,973 | 31,592 | 38,102 | 34,675 | 60,803 | 83,557 | 72,923 | 15,726 | 28,293 | 18,748 | 35,661 | 442,122 |
| CES Cust Served | 575,169 | 575,376 | 575,700 | 575,827 | 575,632 | 575,368 | 575,904 | 575,882 | 575,985 | 576,891 | 577,363 | 577,422 | |
| 2012 With Storms, All Levels, All Causes | 9,482 | 26,854 | 61,753 | 35,017 | 79,060 | 101,289 | 52,264 | 75,539 | 61,336 | 35,897 | 27,008 | 13,559 | 579,058 |
| New Tariff Normalized, No Trans Line, All Causes | 9,482 | 23,562 | 34,254 | 23,928 | 73,461 | 65,101 | 39,859 | 44,430 | 53,364 | 35,897 | 27,008 | 10,010 | 440,356 |
| Annual Normalized, All Levels, All Causes | 9,482 | 23,562 | 61,753 | 35,017 | 79,060 | 89,271 | 52,264 | 65,334 | 61,336 | 35,897 | 27,008 | 13,559 | 553,543 |
| CES Cust Served | 575,169 | 575,376 | 575,700 | 575,827 | 575,632 | 575,368 | 575,904 | 575,882 | 575,985 | 576,891 | 577,363 | 577,422 | |
| 2011 With Storms, All Levels, All Causes | 8,720 | 23,830 | 18,125 | 49,543 | 63,679 | 33,489 | 141,074 | 59,901 | 33,641 | 35,411 | 19,442 | 21,122 | 507,977 |
| New Tariff Normalized, No Trans Line, All Causes | 8,720 | 23,830 | 11,742 | 15,747 | 13,044 | 28,035 | 65,969 | 33,214 | 33,641 | 35,411 | 6,005 | 19,996 | 295,354 |
| Annual Normalized, All Levels, All Causes | 8,720 | 23,830 | 18,125 | 49,543 | 45,410 | 20,480 | 108,233 | 33,617 | 26,952 | 35,411 | 19,442 | 21,122 | 410,885 |
| CES Cust Served | 572,913 | 573,235 | 573,337 | 573,231 | 573,047 | 572,642 | 572,899 | 572,948 | 573,450 | 574,006 | 574,259 | 574,791 | |

| Northwest - Customer Interruptions | January | February | March | April | May | June | July | August | September | October | November | December | YTD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2015 With Storms, All Levels, All Causes | 12,023 | 2,530 | 18,547 | 9,150 | 18,472 | 17,688 | 44,138 | 7,858 | 27,249 | 1,246 | 5,367 | 5,645 | 169,913 |
| New Tariff Normalized, No Trans Line, All Causes | 7,706 | 1,244 | 5,954 | 4,177 | 10,384 | 5,109 | 18,504 | 4,015 | 17,565 | 1,246 | 1,006 | 4,018 | 80,928 |
| Annual Normalized, All Levels, All Causes | 12,023 | 2,530 | 18,547 | 9,150 | 18,472 | 17,688 | 29,581 | 7,858 | 27,249 | 1,246 | 5,367 | 5,645 | 155,356 |
| CES Cust Served | 118,064 | 118,121 | 118,158 | 118,137 | 117,923 | 117,939 | 117,972 | 118,079 | 118,103 | 118,227 | 118,302 | 118,371 | |
| 2014 With Storms, All Levels, All Causes | 23,872 | 8,856 | 4,717 | 24,352 | 28,058 | 31,658 | 9,557 | 29,170 | 5,782 | 4,684 | 923 | 5,280 | 176,909 |
| New Tariff Normalized, No Trans Line, All Causes | 23,078 | 3,508 | 4,717 | 7,187 | 17,759 | 16,182 | | 11,979 | 294 | 4,684 | | 5,280 | 94,668 |
| Annual Normalized, All Levels, All Causes | 23,872 | 8,856 | 4,717 | 24,352 | 28,058 | 31,658 | 9,557 | 29,170 | 5,782 | 4,684 | 923 | 5,280 | 176,909 |
| CES Cust Served | 117,403 | 117,421 | 117,541 | 117,618 | 117,510 | 117,401 | 117,490 | 117,527 | 117,621 | 117,808 | 117,839 | 117,949 | |
| 2013 With Storms, All Levels, All Causes | 9,769 | 12,000 | 11,519 | 23,847 | 20,437 | 75,560 | 5,032 | 17,369 | 5,715 | 10,638 | 946 | 18,955 | 211,787 |
| New Tariff Normalized, No Trans Line, All Causes | 5,465 | 3,656 | 10,818 | 18,389 | 12,105 | 6,475 | 5,032 | 4,530 | 3,355 | 7,255 | 17 | 1,238 | 78,335 |
| Annual Normalized, All Levels, All Causes | 9,769 | 12,000 | 11,519 | 23,847 | 20,437 | 12,460 | 5,032 | 17,369 | 5,715 | 10,638 | 946 | 18,955 | 148,687 |
| CES Cust Served | 116,430 | 116,469 | 116,506 | 116,468 | 116,398 | 116,400 | 116,444 | 116,517 | 116,547 | 116,669 | 116,683 | 116,749 | |
| 2012 With Storms, All Levels, All Causes | 2,855 | | 3,052 | 18,245 | 41,144 | 30,468 | 23,222 | 14,130 | 6,615 | 5,728 | 1,584 | 18,908 | 165,951 |
| New Tariff Normalized, No Trans Line, All Causes | 2,855 | | 3,052 | 13,115 | 30,118 | 15,091 | 13,327 | 5,760 | 6,615 | 5,728 | 1,584 | 14,020 | 111,265 |
| Annual Normalized, All Levels, All Causes | 2,855 | | 3,052 | 18,245 | 41,144 | 30,468 | 23,222 | 14,130 | 6,615 | 5,728 | 1,584 | 18,908 | 165,951 |
| CES Cust Served | 116,430 | 116,469 | 116,506 | 116,468 | 116,398 | 116,400 | 116,444 | 116,517 | 116,547 | 116,669 | 116,683 | 116,749 | |
| 2011 With Storms, All Levels, All Causes | 4,155 | 4,358 | 2,183 | 5,964 | 7,427 | 13,797 | 46,796 | 83,319 | | 4,773 | 8,009 | 4,117 | 184,898 |
| New Tariff Normalized, No Trans Line, All Causes | | 1,702 | 2 | 2,227 | 300 | 10,361 | 16,881 | 9,471 | | 993 | 2,483 | | 44,420 |
| Annual Normalized, All Levels, All Causes | 4,155 | 4,358 | 2,183 | 5,964 | 2,457 | 10,581 | 11,205 | 17,408 | | 4,773 | 8,009 | 4,117 | 75,210 |
| CES Cust Served | 116,117 | 116,152 | 116,219 | 116,207 | 116,141 | 115,972 | 115,994 | 116,076 | 116,095 | 116,211 | 116,290 | 116,378 | |

| Southeast - Customer Interruptions | January | February | March | April | May | June | July | August | September | October | November | December | YTD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2015 With Storms, All Levels, All Causes | 5,272 | 7,298 | 6,018 | 7,917 | 12,816 | 13,344 | 20,301 | 8,763 | 13,152 | 4,437 | 10,688 | 705 | 110,711 |
| New Tariff Normalized, No Trans Line, All Causes | 469 | | 1,304 | 4,404 | 2,683 | 5,888 | 3,544 | 4,114 | 7,680 | 4,437 | 5,303 | | 39,826 |
| Annual Normalized, All Levels, All Causes | 5,272 | 7,298 | 6,018 | 7,917 | 12,816 | 7,810 | 20,301 | 8,763 | 13,152 | 4,437 | 10,688 | 705 | 105,177 |
| CES Cust Served | 126,266 | 126,437 | 126,480 | 126,476 | 126,240 | 126,322 | 126,247 | 126,315 | 126,425 | 126,577 | 126,591 | 126,733 | |
| 2014 With Storms, All Levels, All Causes | 2,357 | 31,472 | 2,351 | 969 | 23,529 | 17,257 | 2,377 | 8,959 | 14,485 | 15,839 | 19,461 | 12,546 | 151,602 |
| New Tariff Normalized, No Trans Line, All Causes | 762 | 1,631 | 47 | | 8,843 | 5,196 | 2,377 | 5,189 | 5,790 | 10,522 | 485 | 2,199 | 43,041 |
| Annual Normalized, All Levels, All Causes | 2,357 | 13,080 | 2,351 | 969 | 23,529 | 9,782 | 2,377 | 6,190 | 14,485 | 15,839 | 19,461 | 12,546 | 122,966 |
| CES Cust Served | 125,787 | 125,844 | 126,062 | 126,046 | 125,895 | 125,761 | 125,844 | 125,902 | 125,976 | 126,082 | 126,135 | 126,164 | |
| 2013 With Storms, All Levels, All Causes | 4,848 | 4,209 | 520 | 15,343 | 15,145 | 13,663 | 12,693 | 8,107 | 3,847 | 11,102 | 2,911 | 18,189 | 110,577 |
| New Tariff Normalized, No Trans Line, All Causes | 2,531 | 3,012 | 520 | 11,411 | 3,390 | 1,498 | 7,947 | 3,468 | 3,847 | 3,283 | 1,569 | 761 | 43,237 |
| Annual Normalized, All Levels, All Causes | 4,848 | 4,209 | 520 | 15,343 | 7,712 | 13,663 | 10,870 | 8,107 | 3,847 | 7,748 | 2,911 | 18,189 | 97,967 |
| CES Cust Served | 124,775 | 124,858 | 124,949 | 125,016 | 124,787 | 124,769 | 124,752 | 124,856 | 124,917 | 125,097 | 125,170 | 125,229 | |
| 2012 With Storms, All Levels, All Causes | 6,037 | 25 | 8,191 | 2 | 20,975 | 20,350 | 37,058 | 25,575 | 5,261 | 5,609 | 5,304 | 8 | 134,395 |
| New Tariff Normalized, No Trans Line, All Causes | 6,037 | 25 | 256 | 2 | 5,066 | 5,447 | 14,277 | 6,835 | 3,634 | 5,058 | | 8 | 46,645 |
| Annual Normalized, All Levels, All Causes | 6,037 | 25 | 8,191 | 2 | 20,975 | 8,448 | 37,058 | 24,090 | 3,280 | 5,609 | 5,304 | 8 | 119,027 |
| CES Cust Served | 124,775 | 124,858 | 124,949 | 125,016 | 124,787 | 124,769 | 124,752 | 124,856 | 124,917 | 125,097 | 125,170 | 125,229 | |
| 2011 With Storms, All Levels, All Causes | | 3,674 | 6,763 | 5,103 | 3,361 | 23,773 | 36,085 | 36,907 | 303 | 1,721 | 11,031 | 6,488 | 135,209 |
| New Tariff Normalized, No Trans Line, All Causes | | | 1,030 | 513 | 2,652 | 7,259 | 2,555 | 6,928 | 303 | 1,721 | 1,575 | 2,808 | 27,344 |
| Annual Normalized, All Levels, All Causes | | 3,674 | 6,763 | 5,103 | 3,361 | 21,303 | 11,925 | 36,907 | 303 | 1,721 | 11,031 | 6,488 | 108,579 |
| CES Cust Served | 124,292 | 124,377 | 124,373 | 124,395 | 124,010 | 124,178 | 124,174 | 124,358 | 124,447 | 124,498 | 124,613 | 124,704 | |

# MINNESOTA MAIFI

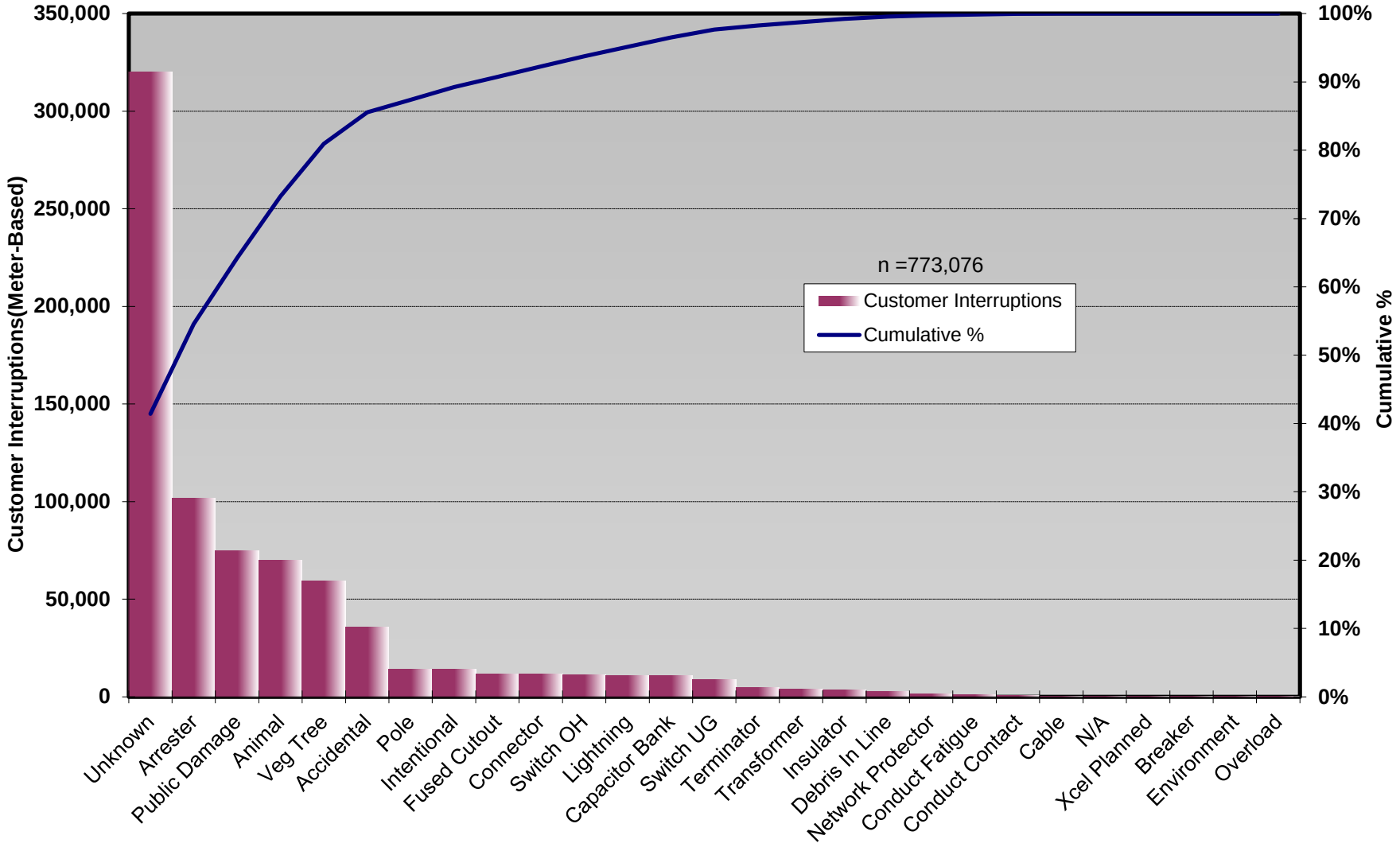



*With Storms - No normalization, All Levels, All*
*Annual Rules - Normalized on Count of Outages, 5 year -rolling 3 sigma, All Levels, All Causes*
*New Tariff - IEEE Normalization after removing Trans Lines, All Causes*

*Momentary events <= 5 Minutes*

# MINNESOTA MAIFI

## 2015, MN Tariff, No Transmission Lines, All Causes

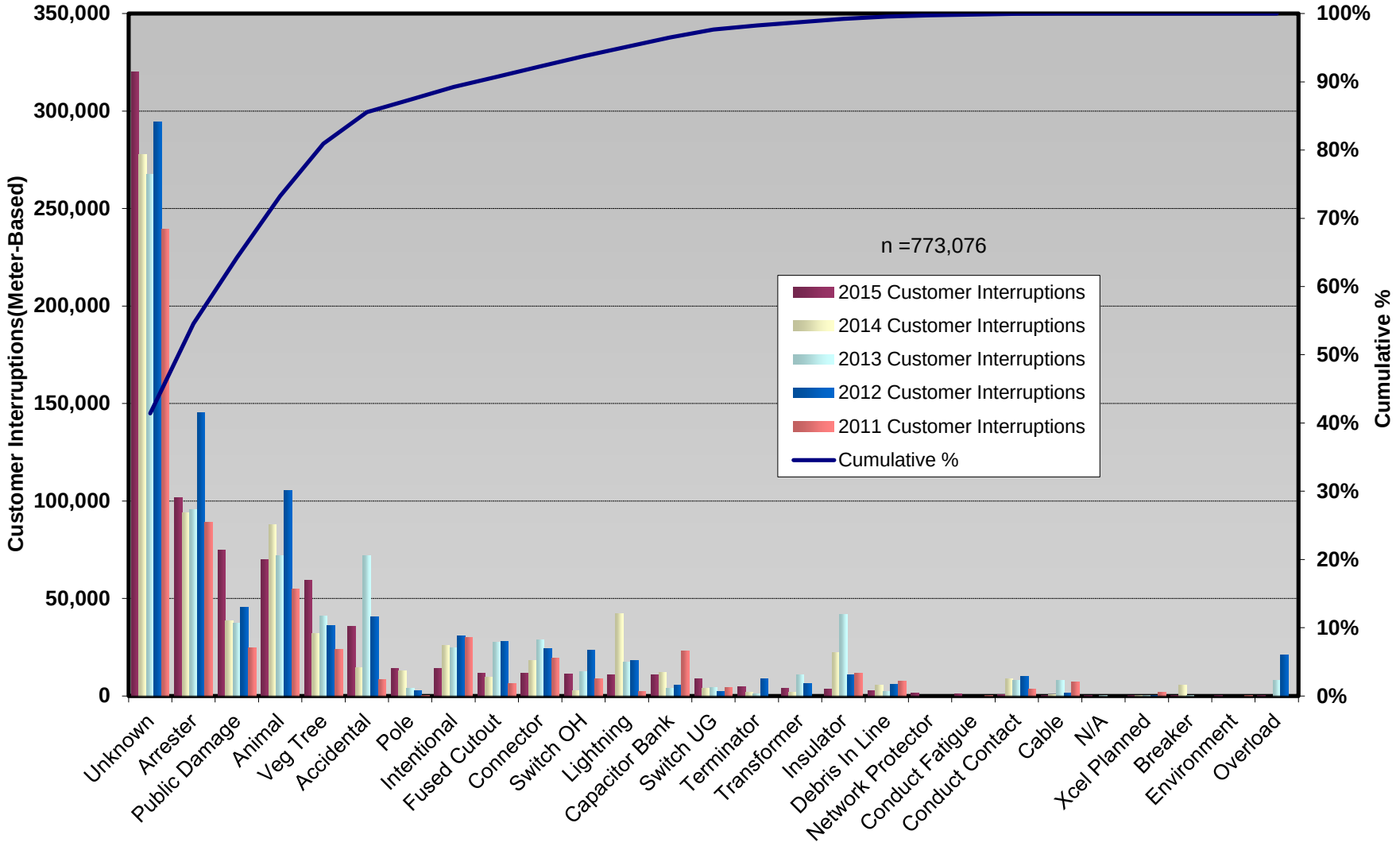



*New Tariff - IEEE Normalization after removing Trans Lines, All Causes*

*Momentary events <= 5 Minutes*

# MINNESOTA MAIFI

## 5 Year, MN Tariff, No Transmission Lines, All Causes




*New Tariff - IEEE Normalization after removing Trans Lines, All Causes*

*Momentary events <= 5 Minutes*

| Utility | Work_Resolution | Data | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Grand Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Electric** | INVESTIGATE AND REMEDIATE | Order Count | 130 | 163 | 201 | 174 | 180 | 207 | 207 | 204 | 211 | 241 | 192 | 240 | 2,350 |
| | | Average Days | 3.49 | 3.25 | 2.92 | 2.86 | 3.08 | 3.02 | 2.68 | 2.90 | 3.17 | 2.95 | 3.10 | 3.51 | 3.07 |
| | | Min Days | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| | | Max of Days | 65 | 57 | 7 | 12 | 14 | 12 | 13 | 9 | 7 | 7 | 7 | 7 | 65 |
| | | StdDev of Days | 5.80 | 4.42 | 1.29 | 1.63 | 1.76 | 1.49 | 1.35 | 1.22 | 1.42 | 1.30 | 1.36 | 1.72 | 2.26 |
| | INVESTIGATE AND REFER | Order Count | 9 | 17 | 15 | 24 | 14 | 13 | 13 | 17 | 19 | 16 | 18 | 19 | 194 |
| | | Average Days | 3.56 | 6.24 | 3.60 | 3.04 | 3.36 | 5.62 | 3.08 | 3.24 | 3.47 | 2.94 | 4.39 | 3.84 | 3.84 |
| | | Min Days | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 1 |
| | | Max of Days | 5 | 56 | 5 | 7 | 5 | 34 | 7 | 5 | 7 | 6 | 11 | 6 | 56 |
| | | StdDev of Days | 1.33 | | 1.06 | 1.52 | 1.28 | 8.58 | 1.50 | 1.03 | 1.71 | 1.34 | 2.23 | 1.71 | 4.61 |
| | REMEDIATE UPON REFERRAL | Order Count | | | 1 | | | 2 | 1 | | | | | | 4 |
| | | Average Days | | | 0.00 | | | 0.50 | 1.00 | | | | | | 0.50 |
| | | Min Days | | | 0 | | | 0 | 1 | | | | | | 0 |
| | | Max of Days | | | 0 | | | 1 | 1 | | | | | | 1 |
| | | StdDev of Days | | | | | | 0.71 | | | | | | | 0.58 |
| Electric Order Count | | | 139 | 180 | 217 | 198 | 194 | 222 | 221 | 221 | 230 | 257 | 210 | 259 | 2,548 |
| Electric Average Days | | | 3.50 | 3.53 | 2.95 | 2.88 | 3.10 | 3.15 | 2.70 | 2.92 | 3.19 | 2.95 | 3.21 | 3.53 | 3.12 |
| Electric Min Days | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| Electric Max of Days | | | 65 | 57 | 7 | 12 | 14 | 34 | 13 | 9 | 7 | 7 | 11 | 7 | 65 |
| Electric StdDev of Days | | | 5.62 | 5.77 | 1.30 | 1.61 | 1.73 | 2.55 | 1.36 | 1.21 | 1.45 | 1.30 | 1.49 | 1.72 | 2.53 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Gas** | INVESTIGATE AND REMEDIATE | Order Count | 141 | 178 | 162 | 217 | 161 | 162 | 148 | 142 | 152 | 251 | 133 | 161 | 2,008 |
| | | Average Days | 2.70 | 2.80 | 2.69 | 2.87 | 2.75 | 3.06 | 2.66 | 2.87 | 3.02 | 2.74 | 3.38 | 3.70 | 2.92 |
| | | Min Days | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Max of Days | 7 | 6 | 6 | 7 | 7 | 10 | 7 | 8 | 7 | 8 | 9 | 11 | 11 |
| | | StdDev of Days | 1.31 | 1.36 | 1.41 | 1.49 | 1.23 | 1.47 | 1.48 | 1.56 | 1.64 | 1.48 | 1.59 | 2.21 | 1.56 |
| | INVESTIGATE AND REFER | Order Count | 51 | 77 | 90 | 102 | 45 | 32 | 33 | 27 | 38 | 43 | 25 | 31 | 594 |
| | | Average Days | 2.98 | 3.10 | 2.96 | 3.11 | 2.96 | 2.88 | 2.88 | 2.89 | 3.55 | 3.00 | 3.16 | 3.65 | 3.08 |
| | | Min Days | 1 | 1 | 1 | 0 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 0 | 0 |
| | | Max of Days | 7 | 6 | 7 | 11 | 5 | 5 | 6 | 6 | 6 | 5 | 5 | 7 | 11 |
| | | StdDev of Days | 1.35 | 1.29 | 1.39 | 1.48 | 1.24 | 1.07 | 1.17 | 1.19 | 1.33 | 1.11 | 1.28 | 1.87 | 1.35 |
| | REMEDIATE UPON REFERRAL | Order Count | 41 | 58 | 73 | 70 | 29 | 16 | 11 | 8 | 6 | 11 | 12 | 19 | 354 |
| | | Average Days | 2.63 | 2.98 | 2.23 | 2.06 | 2.55 | 3.00 | 4.73 | 2.50 | 5.33 | 4.45 | 4.75 | 3.84 | 2.81 |
| | | Min Days | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 |
| | | Max of Days | 12 | 31 | 11 | 8 | 10 | 7 | 17 | 7 | 18 | 12 | 9 | 18 | 31 |
| | | StdDev of Days | 2.73 | 4.22 | 2.14 | 1.78 | 2.21 | 2.16 | 5.75 | 2.39 | 6.47 | 4.16 | 2.56 | 4.32 | 3.14 |
| Gas Order Count | | | 233 | 313 | 325 | 389 | 235 | 210 | 192 | 177 | 196 | 305 | 170 | 211 | 2,956 |
| Gas Average Days | | | 2.75 | 2.91 | 2.66 | 2.78 | 2.76 | 3.02 | 2.82 | 2.86 | 3.19 | 2.84 | 3.45 | 3.70 | 2.94 |
| Gas Min Days | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Gas Max of Days | | | 12 | 31 | 11 | 11 | 10 | 10 | 17 | 8 | 18 | 12 | 9 | 18 | 31 |
| Gas StdDev of Days | | | 1.65 | 2.17 | 1.62 | 1.58 | 1.38 | 1.48 | 1.97 | 1.55 | 1.92 | 1.62 | 1.66 | 2.41 | 1.79 |
| | | | | | | | | | | | | | | | |
| Total E & G Order Count | | | 372 | 493 | 542 | 587 | 429 | 432 | 413 | 398 | 426 | 562 | 380 | 470 | 5,504 |
| Total E & G Average Days | | | 3.03 | 3.13 | 2.78 | 2.82 | 2.91 | 3.09 | 2.75 | 2.89 | 3.19 | 2.89 | 3.32 | 3.61 | 3.02 |
| Total E & G Days Min | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total E & G Days Max | | | 65 | 57 | 11 | 12 | 14 | 34 | 17 | 9 | 18 | 12 | 11 | 18 | 65 |
| Total E & G Days Std Dev | | | 3.69 | 3.90 | 1.50 | 1.59 | 1.56 | 2.10 | 1.67 | 1.37 | 1.68 | 1.48 | 1.57 | 2.06 | 2.16 |

# EXCLUSIONS

## Meter Access

| Utility | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Grand Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Electric Order Count | 7 | 61 | 27 | 28 | 15 | 4 | 3 | 3 | 4 | 20 | 24 | 23 | 219 |
| Electric Average Days | 14.29 | 151.75 | 55.56 | 136.32 | 26.73 | 111.25 | 21.00 | 10.00 | 111.75 | 141.10 | 122.88 | 52.30 | 105.18 |
| | | | | | | | | | | | | | |
| Gas Order Count | 37 | 80 | 92 | 97 | 28 | 11 | 16 | 5 | 5 | 60 | 65 | 37 | 533 |
| Gas Average Days | 50.14 | 109.95 | 50.30 | 35.16 | 30.93 | 53.64 | 57.94 | 21.80 | 16.00 | 74.95 | 94.00 | 38.78 | 62.48 |
| | | | | | | | | | | | | | |
| Total E & G Order Count | 44 | 141 | 119 | 125 | 43 | 15 | 19 | 8 | 9 | 80 | 89 | 60 | 752 |
| Total E & G Average Days | 44.43 | 128.04 | 51.50 | 57.82 | 29.47 | 69.00 | 52.11 | 17.38 | 58.56 | 91.49 | 101.79 | 43.97 | 74.92 |
| | | | | | | | | | | | | | |

## Environmental

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Electric Order Count | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Electric Average Days | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

# I. INTRODUCTION

This report is in response to the Minnesota Public Utilities Commission's October 23, 2015 Order in Docket No. E002/M-15-324 to summarize the results of our efforts to gain stakeholder and other insights into potential new metrics and standards to assess service quality.[1] This requirement stemmed from a discussion at the October 22, 2015 hearing in which the Commission was considering the Company's 2015 electric annual service quality report, and discussing whether the current service quality reporting requirements will be relevant as utility systems gain intelligence from grid modernization investments.

We agree that the grid of the future will look and perform differently than it has over the past century – and as such, it will make sense to view and measure service quality differently. The Commission's current requirements for utility annual electric service quality reporting are based in Minnesota Rules that were developed before the concepts of grid modernization were contemplated.[2] The current electric service quality Rules cover a broad range of utility service across Safety, Reliability, Responsiveness, Billing Accuracy, and Customer Protection categories. We are unique in that each May 1, we additionally report on similar aspects of our electric and natural gas service quality per the terms of our Quality of Service tariff, which also carries with it individual customer and Company underperformance payments for failure to meet established thresholds.[3] We provide a summary of our current electric service quality reporting requirements as Attachment Q.

At the hearing where the Commission required this report, the Commission expressed interest in understanding how customers think about reliability, and what reliability "costs" customers. We expanded on these questions – mining our current customer research, engaging with some segments of our customers directly, and gathering insights from stakeholders representing other customer segments. We know from the ongoing research that we conduct with our customers, that they value reliable electric service above all else. However, while customers value "perfect power" and their

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[1] *See* ORDER, *In The Matter of Northern States Power Company's Annual Report on Safety, Reliability, and Service Quality for 2014; and Petition for Approval of Electric Reliability Standards for 2015*, Docket No. E002/M-15-324 (October 23, 2015).

[2] The Commission's requirements for utility annual electric service quality reporting currently fall under Minn. R. 7826.0400, 7826.0500, and 7826.1300. Utilities are additionally required to propose reliability standards for the following year under Minn. R. 7826.0600. As a rate-regulated natural gas utility, we also report on various aspects of our natural gas service quality, which were established via a Commission Order in an investigatory docket. *See* ORDER SETTING REPORTING REQUIREMENTS, *In the Matter of a Commission Investigation Into Gas Utility Service Quality Standards*, Docket No. G999/CI-09-409 (August 26, 2010).

[3] *See* ORDER APPROVING AMENDMENTS TO SERVICE-QUALITY TARIFF, Docket Nos. E,G002/CI-02-2034 and E,G002/M-12-383 (August 12, 2013).

satisfaction declines with just one lengthy outage, customers generally accept the notion that their power supply is not perfect. Therefore, along with their desire for reliable service, customers almost equally value communication about the outage throughout its duration. We further validated these insights through the dialogue and targeted research we engaged in specifically for this report.

In this report, we provide insights into the aspects of our service that are most important to our customers. To develop this report, we gathered customer insights from our existing market research, undertook additional customer research, and engaged in direct dialogue with customers and customer stakeholder groups to understand how they think about reliability. In addition to summarizing these insights, we compare the information we gathered to the service quality metrics we currently report to the Commission under the Minnesota Rules and our Tariff. Finally, we summarize trends and other industry insights into the aspects of utility service quality that are being measured in response to changes in the industry.

While we do not propose any specific metrics in this report, we are open to working with stakeholders further.

## II. POTENTIAL NEW METRICS

The Commission currently measures the quality of electric utility service across a broad range of service categories including their responsiveness, reliability, safety, billing accuracy and customer protections. We believe the most relevant and immediate aspect of service quality to be implicated by increased system intelligence is reliability and grid resiliency. We are happy to begin this dialogue with this report, and look forward to further discussions and evaluating changes to the current service quality requirements in conjunction with specific grid modernization investments.

With that said, we believe the essential function of the system will continue to be to provide reliable electric service to customers – and, as we discuss below, customers value reliable electric service above all else. To this end, we believe the Commission will want to continue to measure the frequency (System Average Interruption Frequency Index or SAIFI) and duration (System Average Interruption Duration Index or SAIDI) of customer interruptions on a system average basis. Measuring these interruptions on a *system*-average, rather than a *customer*-average basis is the industry standard and most appropriate measurement of the overall reliability of the utility's electric service.

However, the Commission may additionally be interested in understanding the frequency and duration trends of interruptions at a *customer* level. While system-average indices measure include customers who experienced sustained interruptions along with customers who experienced no interruptions, customer-based indices measure the experience of customers that experienced interruptions. The customer-level equivalents to the SAIFI and SAIDI system-level indices typically used in the industry are Customers Experiencing Multiple Interruptions (CEMI) and Customers Experiencing Lengthy Interruptions (CELI).

In terms of benchmarking the reliability of the utility's service today, current year performance is measured against some variation of past performance. In the future, we believe the benchmark should be adjusted to account for the specific investments being made in the system that are expected to impact outage frequency and/or duration. Any adjustments to the indices will be specific to the particular investment(s) being made in the system, and should be examined in conjunction with specific system investment proposals.

Finally, while we have relatively high customer satisfaction in the area of reliability currently, we acknowledge customers want more. As we discuss below, customers put significant value on communication during outages, including accurate restoration estimates. We have a number of initiatives underway currently to improve our communications in this area, and expect that with time, experience, and increased grid intelligence we will make good strides in this area. We do not believe that this is ripe to become a service quality metric at this time due to the lack of data we currently have. However, we want the Commission to be aware that we are taking actions and are beginning to track results in this area. We discuss our current efforts around this aspect of service quality below.

## III. CUSTOMER VIEW OF RELIABILITY

In this section, we outline the insights we gleaned from our existing market research with our customers, and the feedback we gathered from customers and stakeholders specifically for purposes of this report. We devised our specific feedback efforts for this report to efficiently gain a broad perspective across our customer segments. We did this through:

- Executing a specific survey of our Xcel Energy customer panels, which represent residential and small business customers,
- Engaging with our community relations and large customer account management teams,

- Gathering direct feedback from community leaders and public works staffs, and
- Engaging with the e21 Stakeholder Group, which represents a broad range of interests.

## A. Existing Customer Research

We have several tools for measuring the satisfaction of our customers, but there are two primary surveys that we looked to and discuss in this report – our Voice of the Customer (VOC) survey and J.D. Power and Associates (JD Power) information. As we discuss below, we also provide highlights from residential and business customer Focus Groups that we administered on the subject of reliability in late 2014. We also provide highlights and discuss changes we have and are implementing in response to the feedback we have gotten from customers in the "Moments that Matter" section below.

### *1. Survey Overview*

We administer the VOC on a monthly basis, surveying customer satisfaction with specific "transactions" as well as overall satisfaction with the Company's service. We ask a random sample of our residential and commercial customers who have recently contacted the Company to rate our performance on a scale from 0-10 in relation to categories that drive customer service and operations satisfaction.

JD Power is an independent global research firm that provides services to several industries, including the energy industry. As it pertains to the energy industry, JD Power performs annual benchmarking studies that assess how utilities have performed compared to one another in several customer service-related categories. The categories of customer service we measure in our VOC surveys are aligned with the JD Power customer research categories. We clarify that we do not retain JD Power to perform these surveys; rather, JD Power performs the surveys and makes the results available annually via subscription. We subscribe to the survey each year because we find value in understanding the issues that are important to customers nationally and regionally, as well as how our customers rate our service performance compared to other utilities.

From these sources, we know that the elements of customer satisfaction generally fall within the following six drivers:

- *Billing and Payment* – our customers want accurate, timely bills – as well as flexible and convenient billing and payment options.

- *Citizenship* – our customers expect the Company to be a good corporate citizen, actively involved and giving back to our communities.
- *Communication* – our customers expect that we provide them timely information about our service, including safety messages, rate changes, and tips to conserve energy.
- *Customer Service* – our customers expect our employees to be knowledgeable, and that the Company resolves their service issues in an expedient, professional, and courteous manner when they call us or when we visit their home or business.
- *Power Quality and Reliability* – our customers expect reliable electric service, and restoration in a reasonable amount of time when there is an interruption to their service.
- *Price* – our customers expect to receive all of these elements of service at a reasonable rate.

While price is a primary driver of perceived value, we know from JD Power that reliable electric service is a critical and fundamental driver of customer satisfaction for our customers, and the service aspect our customers place the greatest weight on when rating their satisfaction with their electric service provider. This is also consistent with our direct research and understanding from our customers.

*2. Voice of the Customer Survey*

We have learned from the VOC surveys that we conduct with our customers that the key drivers of electric outage satisfaction include:

- First call resolution (e.g., not having to follow-up later for status updates);
- Accuracy of the estimated restoration time;
- Receiving updated information via text, phone, and email (this can include confirmation that power has been restored);
- Communications regarding the outage; and
- Our performance in restoring the power.

*3. JD Power Survey*

We provide below overall insights from the most recent JD Power residential customer surveys, and clarify that these insights are general/applicable to all customers surveyed – not just Xcel Energy customers.

*Reliability-related customer satisfaction insights.* Customer said that the number/frequency of brief power interruptions continues to decline, while the length/duration of interruptions has remained fairly constant.

- Households with "perfect power" are increasing.
- One lengthy outage causes about a 10 percent drop in satisfaction.
- Satisfaction is higher if power is restored within 20 minutes of the estimated restoration time, and declines as restoration extends to two hours beyond the estimate.
- Satisfaction drops significantly if power is restored greater than 20 minutes after the estimated restoration time, steadily declining as time progresses.

Satisfaction is significantly higher if the utility uses proactive communication to provide information about an outage, in the following rank order:

- Utility emailed
- Customer emailed utility
- Utility social media site
- Utility sent text message
- Utility called

*General customer satisfaction insights:*

- Customer satisfaction jumps when customers select an optional rate plan;
- Alternative rate options are more satisfying;
- Awareness of a rate increase/decrease impacts price satisfaction (drops when a customer has heard about a rate *increase*; increases when a customer hears about a rate *decrease*);
- Price satisfaction increases when customers perceive improved reliability from rate increase;
- Energy efficiency awareness lifts price satisfaction;
- Utility website and automated bill payment methods score highest satisfaction in billing & payment category;
- Value-added billing features increase satisfaction (In order: utility offers choice of bill date, no estimated bills, receive electronic bill, fixed budget bill plan, have online account); and
- Customers that receive bill alerts have much higher billing and payment satisfaction (In order: when usage is over pre-set amount, confirm payment was received, when bill is ready to be viewed, reminder when bill is due/overdue.

*4. Reliability Focus Groups*

In this section, we summarize highlights from the focus groups we conducted with customers in late 2014 on the subject of electric system outages.

a. Residential Customers

Residential customers told us that power outages cause them frustration and fear – and we learned that their heightened emotions are relaxed once they know that we are aware of the situation and are working to restore power. Their focus in an outage is first on preserving perishable foods, and then communicating with friends and family around safety and comfort. Almost all communicate using mobile phones or internet, which causes them to then be concerned about charging phones and accessing the internet. Their concern then turns to planning their next steps and they get concerned about a lack of entertainment (i.e., black TV screens) while the power is out.

Residential customers have some confusion about who should initiate the information flow in an outage (some call the Company, and some feel that we are responsible to initiate communication with impacted customers). While they appreciate the information that is currently available, in general, they want an initial notification from the Company (via text or email) quickly after the onset of an outage that acknowledges the outage and provides assurance that crews have been dispatched. With this notification, customers also want to know when they will receive an estimated restoration time – then they expect that more detailed communications will follow throughout the outage.

Finally, while residential customers expressed a general preference for text and email communication channels, they told us they want to select their preferred communication channel(s) through an online, opt-in menu – and also regulate how often they receive communications.

b. Business Customers

Business customers told us that in a power outage, their focus is first on employee and client safety, then maintenance of core systems (primarily IT, but also manufacturing and HVAC). We learned that they are generally driven by the need to show their colleagues and managers that they are taking appropriate action, and they almost universally notify the Company of an outage that is affecting them. They told us they are pleasantly surprised that we are often aware of the outage when they call; at the same time, however, they expect regular updates on the estimated restoration time.

Business customers use our estimated restoration times to help inform their decisions around how to best manage their operations and minimize the impact on their revenue. We also learned that when we repair an outage earlier than expected, some businesses find this frustrating – especially if they have sent staff home based on an expectation of longer outage durations. Business customers recognize the relationship between time (i.e., duration of the outage) and the accuracy of the information available from the Company. As a result, their desired communication process includes early, more general announcements – and like residential customers, ongoing, more detailed updates. Business customers are also interested in the cause of the outage, so they can draw their own subjective conclusions around repair times.

Business customers too prefer receiving outage updates from the Company via text and email. This is however more of a challenge for the Company, because the business customer who manages power outages/issues is not always the same contact that deals with billing issues – and our contact information is generally billing-oriented. Business contacts also change more frequently, and those changes are not always communicated to the Company.

*5. Moments that Matter*

We set-out to identify the key "moments that matter" (MTM) to our customers as they interact with the Company. We believe it is these points in time where we have the biggest opportunity to influence our customers' experience. The key moments that we identified are as follows:

- *Start My Service.* Focuses on making a strong and lasting first impression that fosters trust and leaves the customer wanting to engage further with the Company,
- *Pay My Bill.* Addresses account management, billing and payment touch points for all customers and focuses on shifting away from a one-size-fits-all approach toward targeted and dynamic programs and messaging,
- *Understand My Outage.* Builds on the understanding that during outage events, customers want to feel in control and connected to the Company until their power is restored, and
- *Manage My Energy.* Seeks to find ways to add value and deliver choices that meet the needs and expectations of our customers, communities, and policy makers.

In 2013, we created a Customer Experience team that focuses on improving our customers' experience in these key areas. The customer experience is defined as

customer perceptions of an interaction with a company – or seeing the Company through our customers' eyes. Multiple research sources show that customers engage with utilities for a very small amount of time – on average, only six to nine minutes per year. The concept behind our MTM initiative is that each customer touch point is an opportunity to build trust and relationships with our customers. Our goal is to give customers the choices they want and value, and deliver those choices in a convenient manner to affect a positive customer experience.

For example, according to a recent Accenture report, customers who interact with a company digitally are more engaged, satisfied, likely to participate and trust their energy provider. Currently, approximately 48 percent of our transactions with customers are digital. We are working to increase that number. To this end, we are focused on refining our digital communication channels to make it easier to do business with us, implementing proactive notifications to connect with customers in ways that they prefer, and driving deeper customer engagement by offering customers information beyond their initial intended interaction, such as options to participate in other services and programs we offer.

Changes we have made to improve our customers' digital experience include: enhancements to our electric outage map; improvements to our online outage reporting form; redesigned our MyAccount site; and, we launched a redesigned xcelenergy.com website that focuses on content for customers – making it easier to navigate the information and discover relevant solutions, while still allowing them to seamlessly and efficiently complete their intended transaction.

*6. Summary and Next Steps*

Our existing market research clearly conveys that all utility customers highly value digital interactions and utility communications associated with electric service outages – and our customers are no exception. Today, we provide our customers with several tools to express their communication channel preferences, report electrical outages, and monitor our progress in restoring power. As we have discussed, we are using the information we are gleaning from customers to implement improvements to our service.

One area in which we are currently focused is improving the customer experience related to outage restoration estimates. This is a complex issue that requires involvement of numerous areas across the organization to both examine the accuracy of our system-generated Estimated Restoration Times (ERTs) and convey the ERTs

to customers using a method (i.e., text message, email, etc.) and providing them with the frequency that customers prefer.

Now, at the time a customer reports an outage, we provide an ERT which, because it is being provided immediately without the benefit of broader system impact information or insights from field crews, is generic. We adopted this practice, because customers want and expect a restoration estimate. We have learned, however, that ERTs that are not specific to an individual outage event are no longer satisfying to customers; customers expect the ERTs to be accurate within a tight timeframe of ± 20 minutes. Therefore, one of the initial changes we are considering is allowing our systems and work processes to play out for approximately 15-20 minutes after the outage is initially reported to allow for development of an informed and specific ERT. Therefore, instead of providing a generic estimate at the time of the customer's initial contact, we would instead offer the customer the option to receive an informed ERT in approximately 15-20 minutes via the communication channel they prefer (i.e., text, email, phone, etc.).

We are also working to improve the ERTs our Network Management System (NMS) calculates behind the scenes. Our NMS takes in all of the customer-reported outages and quickly correlates them to approximate the system device that has failed or the point on the system where the fault occurred, which we use to dispatch field crews. The NMS contains ERTs for the various system levels and devices, one component of which is travel time. One of our current efforts is to refine and differentiate travel times to be more specific to how we dispatch the work. For example, the travel time for a crew to get to a substation that is less than five miles from a field office will be less than the travel time for a substation that is 20 miles from a field office. Initially examining and updating the ERT components for the numerous system devices and levels is a significant undertaking that will also require ongoing refinement to fine-tune them to be as reasonably accurate as possible. Deployment of increased system intelligence on our distribution system will aid our efforts to provide our customers with more accurate ERTs.

## B. Specific Research Conducted for this Report

In addition to assessing existing market research, we gathered a broad range of customer input specifically for this report, as follows:

- Designed and executed a survey with our residential and small business customers;
- Gathered feedback from our communities by meeting with groups of elected and public works staff representatives;

- Gleaned insights regarding our large customers from our managed accounts team; and
- Interacted with the e21 stakeholder group.

*1. Residential and Small Business Customer Panels*

Xcel Energy maintains Customer Panels, which are residential and small business customers across our footprint that have agreed to provide us feedback over time. We use the Panels to gather feedback for many purposes, including about our programs and services. In this case, we asked Minnesota Panel members to provide us feedback that would supplement the information we already have via our existing market research in the area of reliability expectations – specifically, their perceptions of our preparation before an outage, our customer care and operations response, and our communications during electric outages. We also asked customers what information they needed most, and what we can do to minimize the impact of outages.[4]

**Key insights from this research effort:**

- Outages occur infrequently in general and as such, customers want information regarding the steps they should take proactively/in anticipation of an outage and during outages.
- Customers recognize the efforts the Company field operations employees make in minimizing the length of outages.
- Accurate ERTs are the primary piece of information customers seek.
- Frequent outage communications are very important to customers – especially businesses – leading to higher levels of satisfaction.
- Customers have a strong preference for proactive notification of outage information, as well as confirmation of power restoration.
- The greatest concern in the case of an extended outage is heating/cooling of homes and businesses during the hottest summer and coldest winter seasons.
- We have opportunities to increase customer awareness of where and how to receive outage communication updates.
- Customers expressed varieties of preferred ways to receive updates during outages, with text messaging as a favored option by both residential and business customers.

[4] Surveys conducted during February 2016; 791 residential respondents (56 percent response rate), 48 business respondents (29 percent response rate).

- Customers have higher satisfaction if they are aware of efforts the Company has taken to maintain the integrity and safety of the electric grid.
- Some customers expressed interest in the Company assisting them with implementing back-up power during outages for specific needs such as, medical equipment, sump pumps, wells and communications devices such as cell phones.

*2. Communities*

We invited several of our communities to provide us feedback, which we structured to gain insights from both the Twin Cities metropolitan area and the non-metro/outstate area. To represent the outstate area, we invited communities in our Southeast region because this region has not consistently met the reliability thresholds established in our Annual Service Quality Report under the Minnesota Rules in the recent past. For the metro area, we invited communities in both the eastern and western regions in an effort to ensure it was broadly representative. The feedback from the three sessions was largely consistent, which we outline below:

Communities represented:
*Outstate – Southeast.* Cannon Falls, Northfield, Red Wing, Winona, and Zumbrota.
*Metro – East.* Cottage Grove, Oakdale, and Woodbury.
*Metro – West.* Bloomington, Golden Valley, Hopkins, Minnetonka, and Richfield.

Overall, customers defined quality service as prompt, responsive, reliable service with no down time, consistent voltage, and good communication. They acknowledged, however, that they do not expect "perfect" power, particularly in the case of storms/significant weather events. Like other customers, communities also want to know how long an outage will last, citing a need to determine whether a back-up plan for critical facilities is required, concern for large customers within the city – and a desire to be our partner, or team-up in communicating with city residents. Several cities stated the importance of periodic ERTs throughout an extended outage, including overnight, which they use to not only plan, but also protect some equipment from the impacts of when the power is restored.

Cities' greatest concern in an outage situation is for pumping/lift stations, which provide protection from flooding, and in hot weather, for water-related facilities in general. In terms of restoration, cities expect the Company to prioritize restoration of critical city infrastructure, which currently is factored into our restoration schema. A number of cities noted that they have back-up generators or have taken action to

otherwise reduce the vulnerability of critical city infrastructure from a loss of system power.

In citing the importance of communication, several cities noted that they can help the Company communicate with its customers in the case of an extended outage or when the Company is performing work in the city (such as tree trimming) through established communication methods they generally employ for their own purposes. They expressed a desire for the Company to share press releases and other information during extended outage events that they post on their websites and provide to customers who call the city for information. They also expressed a desire for consistent, proactive notification of Company work in the city such as tree trimming – again so they can supplement and reinforce our existing communications with impacted customers.

Looking to the future and thinking about a system with greater intelligence, communities believe customer expectations will naturally rise. Specifically, communities said they expect greater system intelligence will improve the information we are able to provide in our communications. They also expect it to anticipate and take proactive action to prevent outages and voltage issues.

With respect to other aspects of our service, while we currently do annual planning with cities to coordinate as closely as possible, we have opportunities to improve the coordination of our construction activities with that of the cities to maintain and improve our respective facilities. Some cities also cited opportunities to partner at a higher level through providing increased community energy usage information to support their sustainability efforts, or other information to aid their planning. We also have greater opportunities for education with our communities in the areas of reliability, in light of the community solar gardens that are being developed and property managers and owners that are installing solar on their buildings – as well in other aspects of our business, such as products, services, and proposals pending with the Commission such as rate increases.

*3. Large Customers*

To gain insights from this group of customers, we engaged with our managed accounts team, which works closely with commercial and industrial customers with site loads of 500kW or larger.

Like all other customers, our large customers rely on us for reliable power. Along with reliability, these customers also expect good communications when the power

goes out. If they experience repeated issues, they expect solid action plans and quick resolution. Again, like other customers, this customer group is more frustrated by a "sunny day" power outage than one associated with an obvious or major weather event. This customer group, which includes schools and hospitals, expects to talk to a Company representative and wants to know the cause, ERT, guidance on what they need to do to (i.e., send students or a work shift home, reallocate workers, etc.)

These customers expect that we can explain to them how the grid operates, and have a greater understanding of grid operations and their responsibility to insulate their sensitive equipment from grid disturbances. Many of these customers employ the necessary expertise and have taken action to implement intelligent systems that both provide them logs and initiate protective actions to mitigate impacts of voltage variations or other disturbances coming from the grid.

These customers are concerned with both outage frequency and duration, as a brief outage or even a voltage sag can impact their operations in the same manner as an extended outage. They are generally quite understanding in a storm/major weather event situation. In this circumstance, they want regular updates – and generally expect more information than other customers such as, how many crews we have in the field.

In terms of increasing grid intelligence, this customer group expects that we will continue to educate them about how the system works and any changes in the way that grid is expected to interact with their systems.

*4. e21 Stakeholder Group*

The e21 stakeholder group is examining numerous aspects of current utility regulation – one of which is service quality. We had the opportunity to engage the stakeholder group on a more narrow view of service quality, as it relates to the insights the Commission required for this report. We had a discussion with the group using similar questions as we used in our community feedback sessions, and learned that e21 stakeholders have a similar definition of service quality and expectations for a more intelligent system.

The e21 group told us that service quality means how often power is there (or not) when you need it; customer service representatives can answer customer questions; and customers are aware of the Company's products and services. Specific to reliability, the e21 group defined reliability as the frequency of outages, responsiveness, customer understanding of outage events impacts, and accurate ERTs – noting customers are more frustrated by frequent outages than long outages.

They also cited the importance of communication – noting that our online outage communication tools are getting better, but that we can improve their prominence on our website. Consistent with our existing customer research, the e21 group also noted their belief that ERT accuracy is so important in an extended outage situation that it would be better to be slower in restoring power if our ERTs were accurate. The group also noted that utilities are not exempt from general increasing expectations of greater and greater access to information.

In terms of increasing system intelligence, the e21 group expects that utilities will know more information faster, customers will expect increased information and increased granularity of that information, and customer tolerance for utilities relying on them to tell the utility when the power is out will go down. They also noted that customer expectations for outage duration may change – expecting utilities to restore power more quickly, and that restoration will require fewer field resources.

## IV. NATIONAL TRENDS/OUTSIDE MINNESOTA

### A. Industry – *Institute of Electrical and Electronics Engineers (IEEE)*

To adequately measure distribution system performance, IEEE believes both duration and frequency of customer interruptions must be examined at various system levels, which all provide information about average system performance. The most commonly used indices are as follows:

- *System Average Interruption Frequency Index (SAIFI)* indicates how often the average customer experiences a sustained interruption over a predefined period of time, which is often a one year;
- *System Average Interruption Duration Index (SAIDI)* indicates the total duration of interruption for the average customer during a predefined period of time. It is commonly measured in minutes or hours of interruption;
- *Customer Average Interruption Duration Index (CAIDI)* represents the average time required to restore service; and
- *Average Service Availability Index (ASAI)* represents the fraction of time (often in percentage) that a customer has received power during the defined reporting period.

System averages give general performance trends for the utility. However, system averages will not provide as detailed of information at a customer level that may be needed for decision making, such as when considering the portions of the utility system that may require investment. In this case, information about the interruption

duration or frequency experienced by any specific customer or group of customers served by a specific component of the system is important. To this end, there are indices that examine performance at the customer level, such as the following:

- *Customers Experiencing Multiple Interruptions (CEMI$_n$)* indicates the ratio of individual customers experiencing *n* or more sustained interruptions to the total number of customers served; and
- *Customers Experiencing Lengthy Interruption Durations (CELID)* indicates the ratio of individual customers that experience interruptions with durations longer than or equal to a given time. That time is either the duration of a single interruption(s) or the total amount of time that a customer has been interrupted during the reporting period.

## B. Service Quality Metrics – National Observations

It is common practice for electric utilities to measure and report on quality of service metrics. There are three basic elements that commonly fall under the umbrella of service quality: (1) reliability, (2) customer service, and (3) metering, billing and collection. Though more challenging to measure, power quality is also an important performance measure for some customers, particularly large industrial customers operating sensitive manufacturing processes.[5] Metrics in these areas have been relatively standard across the industry for many years. However, the addition of digital technologies and other advanced sensing and control equipment to the distribution grid is likely to enhance the grid's capabilities in these areas, may allow the Company to offer services that deliver additional customers benefits, and increase available data related to service quality. Similarly, the introduction of higher levels of distributed energy resources (DER) could impact service quality in positive and negative ways. We focus our comments here on emerging examples of metrics linked to grid modernization initiatives and the growth of DER on the electric system. We also provide references to a few recent reports on the evolution of performance metrics.

### *1. State Examples*

#### a. Illinois

Perhaps the most relevant example of incorporating metrics into a distribution grid modernization deployment is Illinois' Energy Infrastructure Modernization Act (EIMA) passed in October 2011.[6] The law's objective is to improve system

[5] Defined by the IEEE Standard Dictionary of Electrical and Electronics Terms as "the concept of powering and grounding sensitive electronic equipment in a manner that is suitable to the operation of that equipment"
[6] 220 ILCS 5 §16-108.5

performance through accelerated investment in programs that address aging distribution infrastructure, harden the system against storms, and expand smart grid technology.

The law requires the state's large electric utilities, namely Commonwealth Edison (ComEd) and Ameren Illinois, to invest more than $3 billion in total over the 2012 through 2021 period, in various distribution infrastructure expansion or upgrade projects, including distribution automation, underground residential distribution cable, and advanced metering infrastructure. Cost recovery is addressed in annual formula rate plan proceedings.

To ensure customers receive benefits from the EIMA investments, the law set reliability and other performance metrics and targets to be achieved incrementally over ten years. The metrics have annual incremental performance goals, which are intended to demonstrate that the utility is on track to achieve the desired outcomes at the conclusion of the 10-year period. The performance goals assume that the utility may fully implement the necessary technology and utilize its full functionality. The metrics and performance goals include:

- 20% improvement in SAIDI;
- 15% improvement in CAIDI;
- 20% improvement in SAIFI;
- Improvement in total number of customers who exceed service reliability targets by 75%;
- 90% reduction in estimated bills;
- 90% reduction in consumption on inactive meters;
- 50% reduction in unaccounted for energy; and
- $30 million reduction in uncollectible expense.

Utilities were also directed to design a performance metric regarding the creation of opportunities for minority-owned and female-owned business enterprises. Utilities are subject to penalties if they do not meet their specified performance goals, though there are some allowances for storms and unusual events. For each year that a goal is unmet, the utility faces a reduction in return on equity, with the penalty increasing over time. To avoid a penalty, 100 percent progress is required on reliability goals, and 95 percent progress is required on other goals. On June 1, each affected utility files with the Commission an annual report that includes, among other things, a description of how the participating utility performed under each metric and an identification of any extraordinary events that adversely impacted the utility's performance.

Pursuant to negotiations between ComEd and environmental and consumer advocates, ComEd is tracking several additional performance metrics for informational purposes only, including but not limited to:

- Reductions in greenhouse gas emissions (as measured through load shifting, system peak reductions, and reduced truck rolls due to smart meters);
- Load served by distributed resources;
- Time required to connect distributed resources to grid;
- Peak load reductions enabled by demand response;
- Products with grid interoperability;
- Customers enrolled in time-varying rates;
- Customer awareness and use of ComEd's web portal for viewing usage information; and
- Grid assets that are monitored, controlled, or automated.[7]

These performance metrics may be useful to ensure a utility is meeting its milestones and to quantify the customer benefits realized from grid modernization efforts.

b. Massachusetts

In 2012 the Massachusetts Department of Public Utilities (DPU) opened an investigation into policies and regulatory models that support enhanced investment in grid modernization technologies and practices.[8] After a robust stakeholder process and report, the DPU issued an Order in June 2014 requiring each distribution utility to file a 10-year Grid Modernization Plan (GMP) that includes a five-year investment plan detailing how the utility will implement advanced metering capabilities and proposed metrics to "enable evaluation of an electric distribution company's implementation of its GMP and progress towards the four grid modernization objectives."[9]

The GMPs filed by Massachusetts utilities in August 2015 include proposed metrics, as required by the Commission's Order. Infrastructure metrics were developed to track the installation of grid modernization technologies, while performance metrics track the benefits anticipated to result from grid modernization implementation. Metrics include statewide metrics common to all utilities, and company-specific metrics. The purpose of the metrics is to record and report information; there are no incentives or penalties linked to the metrics at this time.

[7] Synapse Energy Economics, Inc. Utility Performance Incentive Mechanisms – A Handbook
[8] Department Public Utilities. Docket No. 12-76. Order Opening Investigation. October 2, 2012
[9] D.P.U. 12-76-B at 30

Though the proceedings are still pending, we provide the statewide infrastructure metrics proposed by National Grid and Eversource and the performance metrics proposed by National Grid as examples.

**Table 1: Proposed Statewide Infrastructure Metrics**

| Objective | Proposed Metric |
|---|---|
| Reduce impact of outages | Total Customers served per total count of Automated Devices |
| Optimize Demand | Total number and % of customers on TVR[10] |
| Integrate DER | Total number of grid-connected distributed generation facilities, nameplate capacity and estimated output of each unit, and type of customer-owned or operated units |
| Workforce/Asset Management | Number or % of Sensors Installed versus what is planned |
| Workforce/Asset Management | % of circuits with installed sensors and other GMP program sensors. |

**Table 2: Proposed National Grid-specific Performance Metrics**

| Objective | Proposed Metric |
|---|---|
| Reduce impact of outages | CKAIDI and CKAIFI[11] for feeders enabled by grid modernization |
| Optimize Demand | % of peak load reduction by feeder |
| Workforce/Asset Management | Total meters with estimated reads per cycle |
| Workforce/Asset Management | Employee Training |

## C. Recent Reports

There has been broad recognition in the industry that the electric sector is in a period of transition, largely as a result of technological innovation, changing customer expectations, and policy drivers. As a result, a body of literature has emerged offering guidance on how to align regulatory models with industry changes and how to provide utilities with the right incentives to achieve performance outcomes that customers, regulators and other stakeholders value. Below are some informative papers:

- "Utility Performance Incentive Mechanisms: A Handbook for Regulators," by Melissa Whited, Tim Woolf, and Alice Napoleon of Synapse Energy Economics, Inc. (March 2015)

[10] Time Varying Rates
[11] Circuit Average Interruption Duration Index; Circuit Average Interruption Frequency Index

- "Moving Toward Value in Utility Compensation: Part One – Revenue and Profit," by Steve Kihm, Ron Lehr, Sonia Aggarwal, and Edward Burgess. (June 2015)
- "Performance-based Regulation in a High Distributed Energy Resources Future," by Mark Newton Lowry and Tim Woolf. (January 2016)

## V. CONCLUSION

In summary, utilities have a long history of measuring performance in areas traditionally associated with electric service, including reliability, customer service and satisfaction, and employee and public safety. We believe these areas will remain relevant and important indicators of our service to the Commission and our customers. Further, it appears in the emerging area of metrics linked to increased grid intelligence initiatives that standard reliability indices (e.g., SAIDI, SAIFI, CAIDI) continue to be primary metrics; however, they include higher performance standards that are based on the expected benefits of specific grid investments. We acknowledge that the Commission may also want to monitor performance for an expanded set of outcomes that reflect emerging goals for utility service; those changes also should be examined as part of specific grid investment proposals.

While there may be new metrics that could measure the success of grid modernization investments, we know from our customer research that our customers most value reliable electric service – and almost equally value communication about outages that impact them. Our customers are generally satisfied with their reliability; however, there is some desire for increased communication during an outage. Thus, if the Commission wishes to pursue new metrics associated with grid modernization further, we are happy to participate in that process. In the near-term, however, our research reveals that perhaps the greatest impact on customer satisfaction would be from improved outage communications, including more accurate restoration estimates. As noted above, we have begun tracking our results in this area and have a number of initiatives underway that we believe will improve satisfaction with our outage communications.

| Category | Rule | Subject | Definition |
|---|---|---|---|
| Safety | 7826.0400 A | Safety | **7826.0400 ANNUAL SAFETY REPORT.**<br>On or before April 1 of each year, each utility shall file a report on its safety performance during the last calendar year. This report shall include at least the following information:<br><br>A. summaries of all reports filed with the United States Occupational Safety and Health Administration and the Occupational Safety and Health Division of the Minnesota Department of Labor and Industry during the calendar year |
| Safety | 7826.0400 B | Claims | **7826.0400 ANNUAL SAFETY REPORT.**<br>On or before April 1 of each year, each utility shall file a report on its safety performance during the last calendar year. This report shall include at least the following information:<br><br>B. a description of all incidents during the calendar year in which an injury requiring medical attention or property damage resulting in compensation occurred as a result of downed wires or other electrical system failures and all remedial action taken as a result of any injuries or property damage described. |
| Reliability | 7826.0500 A,B,C | Reliability | **7826.0500 RELIABILITY REPORTING REQUIREMENTS.**<br>Subpart 1. Annual reporting requirements. On or before April 1 of each year, each utility shall file a report on its reliability performance during the last calendar year. This report shall include at least the following information:<br><br>A. the utility's SAIDI for the calendar year, by work center and for its assigned service area as a whole;<br>B. the utility's SAIFI for the calendar year, by work center and for its assigned service area as a whole;<br>C. the utility's CAIDI for the calendar year, by work center and for its assigned service area as a whole; |
| Reliability | 7826.0500 F | Bulk Power Supply Interruptions | **7826.0500 RELIABILITY REPORTING REQUIREMENTS.**<br>Subpart 1. Annual reporting requirements. On or before April 1 of each year, each utility shall file a report on its reliability performance during the last calendar year. This report shall include at least the following information:<br><br>F. to the extent feasible, a report on each interruption of a bulk power supply facility during the calendar year, including the reasons for interruption, duration of interruption, and any remedial steps that have been taken or will be taken to prevent future interruption; |
| Reliability | 7826.0500 G | Major Service Interruptions | **7826.0500 RELIABILITY REPORTING REQUIREMENTS.**<br>Subpart 1. Annual reporting requirements. On or before April 1 of each year, each utility shall file a report on its reliability performance during the last calendar year. This report shall include at least the following information:<br><br>G. a copy of each report filed under part 7826.0700; |
| Reliability | 7826.0700 | Major Service Interruptions | **7826.0700 REPORTING MAJOR SERVICE INTERRUPTIONS.**<br>Subpart 1. Contemporaneous reporting. A utility shall promptly inform the commission's Consumer Affairs Office of any major service interruption. At that time, the utility shall provide the following information, to the extent known:<br>A. the location and cause of the interruption;<br>B. the number of customers affected;<br>C. the expected duration of the interruption; and<br>D. the utility's best estimate of when service will be restored, by geographical area.<br><br>Subp. 2. Written report. Within 30 days, a utility shall file a written report on any major service interruption in which ten percent or more of its Minnesota customers were out of service for 24 hours or more. This report must include at least a description of:<br><br>A. the steps the utility took to restore service; and<br>B. any operational changes the utility has made, is considering, or intends to make, to prevent similar interruptions in the future or to restore service more quickly in the future. |
| Reliability | 7826.0500 H | Worst Performing Circuit | **7826.0500 RELIABILITY REPORTING REQUIREMENTS.**<br>Subpart 1. Annual reporting requirements. On or before April 1 of each year, each utility shall file a report on its reliability performance during the last calendar year. This report shall include at least the following information:<br><br>H. to the extent technically feasible, circuit interruption data, including identifying the worst performing circuit in each work center, stating the criteria the utility used to identify the worst performing circuit, stating the circuit's SAIDI, SAIFI, and CAIDI, explaining the reasons that the circuit's performance is in last place, and describing any operational changes the utility has made, is considering, or intends to make to improve its performance; |
| Reliability | 7826.0500 I | Voltage Variations | **7826.0500 RELIABILITY REPORTING REQUIREMENTS.**<br>Subpart 1. Annual reporting requirements. On or before April 1 of each year, each utility shall file a report on its reliability performance during the last calendar year. This report shall include at least the following information:<br><br>I. data on all known instances in which nominal electric service voltages on the utility's side of the meter did not meet the standards of the American National Standards Institute for nominal system voltages greater or less than voltage range B; |
| Responsiveness | 7826.0500 J | Staffing Levels Distribution | **7826.0500 RELIABILITY REPORTING REQUIREMENTS.**<br>Subpart 1. Annual reporting requirements. On or before April 1 of each year, each utility shall file a report on its reliability performance during the last calendar year. This report shall include at least the following information:<br><br>J. data on staffing levels at each work center, including the number of full-time equivalent positions held by field employees responsible for responding to trouble and for the operation and maintenance of distribution lines; |
| Billing Accuracy | 7826.1400 A,B,C | Meter Reading | **7826.1400 REPORTING METER-READING PERFORMANCE.**<br>The annual service quality report must include a detailed report on the utility's meter-reading performance, including, for each customer class and for each calendar month:<br><br>A. the number and percentage of customer meters read by utility personnel;<br>B. the number and percentage of customer meters self-read by customers;<br>C. the number and percentage of customer meters that have not been read by utility personnel for periods of six to 12 months and for periods of longer than 12 months, and an explanation as to why they have not been read; |

| Category | Rule | Subject | Definition |
|---|---|---|---|
| Billing Accuracy | 7826.1400 D | Staffing Levels<br>Meter Reading | **7826.1400 REPORTING METER-READING PERFORMANCE.**<br>The annual service quality report must include a detailed report on the utility's meter-reading performance, including, for each customer class and for each calendar month:<br><br>D. data on monthly meter-reading staffing levels, by work center or geographical area. |
| Customer Protections | 1. 7826.1500<br>2. 7826.1800<br>3. 7826.1900 | 1. Disconnections<br>2. Emergency Medical Accounts<br>3. Customer Deposits | **7826.1500 REPORTING INVOLUNTARY DISCONNECTIONS.**<br>The annual service quality report must include a detailed report on involuntary disconnections of service, including, for each customer class and each calendar month:<br><br>A. the number of customers who received disconnection notices;<br>B. the number of customers who sought cold weather rule protection under Minnesota Statutes, sections 216B.096 and 216B.097, and the number who were granted cold weather rule protection;<br>C. the total number of customers whose service was disconnected involuntarily and the number of these customers restored to service within 24 hours; and<br>D. the number of disconnected customers restored to service by entering into a payment plan.<br><br>**7826.1800 REPORTING EMERGENCY MEDICAL ACCOUNT STATUS.**<br>The annual service quality report must include the number of customers who requested emergency medical account status under Minnesota Statutes, section 216B.098, subdivision 5, the number whose applications were granted, and the number whose applications were denied and the reasons for each denial.<br><br>**7826.1900 REPORTING CUSTOMER DEPOSITS.**<br>The annual service quality report must include the number of customers who were required to make a deposit as a condition of receiving service. |
| Responsiveness | 7826.1600 part A | Service Extension Request Response | **7826.1600 REPORTING SERVICE EXTENSION REQUEST RESPONSE TIMES.**<br>The annual service quality report must include a report on service extension request response times, including, for each customer class and each calendar month:<br><br>A. the number of customers requesting service to a location not previously served by the utility and the intervals between the date service was installed and the later of the in-service date requested by the customer or the date the premises were ready for service; |
| Responsiveness | 7826.1600 part B | Service Extension Request Response | **7826.1600 REPORTING SERVICE EXTENSION REQUEST RESPONSE TIMES.**<br>The annual service quality report must include a report on service extension request response times, including, for each customer class and each calendar month:<br><br>B. the number of customers requesting service to a location previously served by the utility, but not served at the time of the request, and the intervals between the date service was installed and the later of the in-service date requested by the customer or the date the premises were ready for service. |
| Responsiveness | 7826.1700 | Telephone Response Time | **7826.1700 REPORTING CALL CENTER RESPONSE TIMES.**<br>The annual service quality report must include a detailed report on call center response times, including calls to the business office and calls regarding service interruptions. The report must include a month-by-month breakdown of this information. |
| Customer Protections | 7826.2000 | Customer Complaints | 7826.2000 REPORTING CUSTOMER COMPLAINTS.<br>The annual service quality report must include a detailed report on complaints by customer class and calendar month, including at least the following information:<br><br>A. the number of complaints received;<br>B. the number and percentage of complaints alleging billing errors, inaccurate metering, wrongful disconnection, high bills, inadequate service, and the number involving service-extension intervals, service-restoration intervals, and any other identifiable subject matter involved in five percent or more of customer complaints;<br>C. the number and percentage of complaints resolved upon initial inquiry, within ten days, and longer than ten days;<br>D. the number and percentage of all complaints resolved by taking any of the following actions:<br>(1) taking the action the customer requested;<br>(2) taking an action the customer and the utility agree is an acceptable compromise;<br>(3) providing the customer with information that demonstrates that the situation complained of is not reasonably within the control of the utility; or<br>(4) refusing to take the action the customer requested; and<br>E. the number of complaints forwarded to the utility by the commission's Consumer Affairs Office for further investigation and action. |
| Customer Protections | 7826.2000 | Customer Complaints | |
| Reliability | 7826.0600 | Proposed Reliability Standards | **7826.0600 RELIABILITY STANDARDS.**<br>Subpart 1. Annually proposed individual reliability standards.<br>On or before April 1 of each year, each utility shall file proposed reliability performance standards in the form of proposed numerical values for the SAIDI, SAIFI, and CAIDI for each of its work centers. These filings shall be treated as "miscellaneous tariff filings" under the commission's rules of practice and procedure, part 7829.0100, subpart 11.<br><br>Subp. 2. Annually set, utility-specific, reliability standards.<br>The commission shall set reliability performance standards annually for each utility in the form of numerical values for the SAIDI, SAIFI, and CAIDI for each of its work centers. These standards remain in effect until the commission takes final action on a filing proposing new standards or changes them in another proceeding. |
| Reliability | 7826.0500 E | Action Plan to Remedy any Failures to Meet Reliability Standards | **7826.0500 RELIABILITY REPORTING REQUIREMENTS.**<br>Subpart 1. Annual reporting requirements. On or before April 1 of each year, each utility shall file a report on its reliability performance during the last calendar year. This report shall include at least the following information:<br><br>E. an action plan for remedying any failure to comply with the reliability standards set forth in part 7826.0600 or an explanation as to why noncompliance was unavoidable under the circumstances; |

| Category | Rule | Subject | Definition |
|---|---|---|---|
| Reliability | Order: Docket 07-422 | | 2. Augment its next filing to include a description of the policies, procedures and actions it has implemented, and plans to implement, to assure reliablity and include information on how it is demonstrating proactive management of the system as a whole, increased reliablity and active contingency planning<br><br>3. Include a summary table (or summary information in some format) that allows the reader to more easily assess the overall reliability of the system and identify the main factors that affect reliablity |
| Reliability | Order: Docket 10-310 | MAIFI Results | 8. For reports due April 1, 2011, the Commission requires that Xcel make preparation to begin reporting on MAIFI and also begin to discuss other relevant power quality issues. |
| Reliability | Order: Docket 12-961 | MAIFI Results | 1. A table with annual MAIFI results for Minnesota and our four work centers using three different normalization methodologies;<br>2. A table with the MAIFI results and Customer Interruptions by month and by work center;<br>3. A five-year historical look for Minnesota MAIFI that shows the three different normalization methodologies and their associated trend lines;<br>4. A pareto chart showing the top causes for interruptions for the current year; and<br>5. A pareto chart showing the top causes for interruptions for the past five years. |
| Reliability | Order: Docket 08-393 | | 5. Xcel shall report on the major causes of outages for major event days |
| Responsiveness | Order: Docket 08-871 | | • Volume of Investigate and Remediate Field orders;<br>• Volume of Investigate and Refer Field orders;<br>• Volume of Remediate Upon Referral Field orders;<br>• Average response time for each of the above categories by month and year;<br>• Minimum days, maximum days, and standard deviations for each category; and<br>• Volume of excluded field orders. |
| Customer Protections | 7826.0400 A Tariff Section 6; Sheets 7.2 through 7.11: Subsection E.1 | Customer Complaints to PUC | This metric measures the number of Customer Complaints submitted by the Commission's Consumer Affairs Office. An under performance payment will be assessed in any year in which the number of complaints exceeds 0.2059 complaints per 1,000 customers. Customer complaints will be recorded and reported with no exclusions. The Company may request exclusion of Customer Complaints that the Company can demonstrate are the result of an event beyond the Company's control, which the Company took reasonable steps to address.<br>Customer Complaints will be reported in the following categories:<br>• Billing & Credit<br>• Customer Service<br>• Meter Reading<br>• Trouble Orders<br>• Reliability Duration<br>• Reliability Frequency<br>• Other |
| Responsiveness | 7826.0400 A Tariff Section 6; Sheets 7.2 through 7.11: Subsection E.2 | Telephone Response Time | This metric measures the Company's time to answer customer calls directed to the Company's call center or to its business office. The benchmark is 80 percent of the calls are answered within 20 seconds. The under performance payment will be assessed in any performance year in which less than 80 percent of calls are answered within 20 seconds. Telephone Response Time will be recorded and reported with no exclusions. The Company may request exclusion of certain calls that the Company can demonstrate are the result of an event beyond the Company's control, which the Company took reasonable steps to address. |
| Reliability | 7826.0400 A Tariff Section 6; Sheets 7.2 through 7.11: Subsection E.3 | SAIDI | This metric measures the duration of Interruptions Customers experience during the performance year. The under performance payment will be assessed in any performance year in which the Company's annual statewide SAIDI exceeds 133.23 minutes.<br><br>Xcel Energy shall pay for periodic audits of the accuracy of the outage duration data by an independent firm overseen by the Minnesota Department of Commerce and the Minnesota Office of the Attorney General and Commission Staff. The firm will have expertise in reliability reporting and electric industry practices and will evaluate the Company's outage records in light of reasonable and prudent utility practices. The verification of the Company's records by an independent firm shall identify whether the sufficiency of the documentation and/or errors in the documentation resulted in a problem that materially compromised the integrity of the annually reported value for outage duration. The results of these audits will inform the decision regarding the application of any under performance payments required under this tariff.<br><br>The SAIDI under performance payment shall be triggered for a given reporting year in the event that the underlying outage records used by the Company to determine the annually reported SAIDI value are found to be insufficient or inaccurate on completion of the audit process. The determination of a required payment under this provision will be made, after notice and hearing, by the Commission.<br><br>SAIDI will be reported as defined in this tariff. However, the Company may request exclusion of customer outage events that occur as a result of illegal work stoppages, civil unrest, criminal acts, actions or orders of any government branch or governing body that restricts vehicle movement or deployment of resources (road closures, etc.), natural disaster (flood, earthquake, etc.), or loss of service from a foreign utility. |
| Reliability | 7826.0400 A Tariff Section 6; Sheets 7.2 through 7.11: Subsection E.4 | SAIFI | This metric measures the frequency of Interruptions that Customers experience during the performance year. The under performance payment will be assessed in any performance year in which the Company's statewide SAIFI exceeds 1.21 outage events. SAIFI will be reported as defined in this tariff. However, the Company may request exclusion of customer outage events that occur during periods of, or as a result of illegal work stoppages, civil unrest, criminal acts, actions or orders of any government branch or governing body that restricts vehicle movement or deployment of resources (road closures, etc.), natural disaster (flood, earthquake, etc.), or loss of service from a foreign utility. |
| Responsiveness | 7826.0400 A Tariff Section 6; Sheets 7.2 through 7.11: Subsection E.5 | Gas Emergency Response Time | This metric measures the Company's average annual response time to natural gas emergency calls. The under performance payment will be assessed in any year in which the Company's annual average natural gas emergency response time exceeds 60 minutes. Natural Gas Emergency Response will be recorded and reported with no exclusions. The Company may request exclusion of certain events if the Company can demonstrate circumstances that are beyond the Company's control, which the Company took reasonable steps to address. |

| Category | Rule | Subject | Definition |
|---|---|---|---|
| Reliability | 7826.0400 A Tariff Section 6; Sheets 7.2 through 7.11 Subsection E.6 | Outage Refunds | This service quality provision is intended to compensate individual customers whose premises incur outages unrelated to MEDs that occur at the premises they occupy, and that exceed the following performance year standards:<br>Only customers who have continuously resided at the address experiencing the Interruptions for the consecutive years are eligible to receive the customer credits.<br><br>In addition to customer outage event exclusion for MEDs, the Company may request, on a case-bycase basis, that the commission limit the applicability of or exclude customer outage events that 1) result from storms or other large scale outage events occurring in close proximity to each other so as to restrict the Company's ability to effectively respond with Company and supplemental resources, or 2) were not reasonably within the control of the Company and the Company can demonstrate extraordinary circumstances warranting an exclusion. If the Company makes a request for exclusion, it shall provide public notice of the request by posting the relevant information on www.xcelenergy.com, and direct notice by bill insert to each city in which customers reside whose entitlement to credits may be affected by the outage exclusion. Such public and bill insert notices shall be published at least thirty (30) days prior to the hearing date on which the commission will hear the Company's request. |
| Billing Accuracy | 7826.0400 A Tariff Section 6; Sheets 7.2 through 7.11: Subsection E.7 | Accurate Invoices | This metric measures the level of accurate invoices issued to customers during the performance year. The under performance payment will be assessed in any performance year in which the annual accuracy rate is less than 99.3%. |
| Billing Accuracy | 7826.0400 A Tariff Section 6; Sheets 7.2 through 7.11: Subsection E.8 | Invoice Adjustment Timeliness | This metric measures the Company's average number of cancelled billing periods on a rebilled invoice. The under performance payment will be assessed in any performance year in which the average annual number of cancelled billing periods exceeds 2.35. Invoice Accuracy and Invoice Adjustment Timeliness will be recorded and reported with no exclusions. The Company may request exclusion of certain events affecting the accuracy rate or canceled billing periods if the Company can demonstrate circumstances that are beyond the Company's control, which the Company took reasonable steps to address. |

## CERTIFICATE OF SERVICE

I, Jim Erickson, hereby certify that I have this day served copies of the foregoing document on the attached list of persons.

xx by depositing a true and correct copy thereof, properly enveloped with postage paid in the United States mail at Minneapolis, Minnesota

xx electronic filing

**Docket No. E002/M-16-___**
**Miscellaneous Electric Service List**

Dated this 1st day of April 2016

/s/
_____
Jim Erickson

| First Name | Last Name | Email | Company Name | Address | Delivery Method | View Trade Secret | Service List Name |
|---|---|---|---|---|---|---|---|
| Julia | Anderson | Julia.Anderson@ag.state.mn.us | Office of the Attorney General-DOC | 1800 BRM Tower<br>445 Minnesota St<br>St. Paul,<br>MN<br>551012134 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |
| Christopher | Anderson | canderson@allete.com | Minnesota Power | 30 W Superior St<br><br>Duluth,<br>MN<br>558022191 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |
| James J. | Bertrand | james.bertrand@stinson.com | Stinson Leonard Street LLP | 150 South Fifth Street,<br>Suite 2300<br><br>Minneapolis,<br>MN<br>55402 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |
| Jeffrey A. | Daugherty | jeffrey.daugherty@centerpointenergy.com | CenterPoint Energy | 800 LaSalle Ave<br><br>Minneapolis,<br>MN<br>55402 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |
| Ian | Dobson | ian.dobson@ag.state.mn.us | Office of the Attorney General-RUD | Antitrust and Utilities Division<br>445 Minnesota Street,<br>BRM Tower<br>St. Paul,<br>MN<br>55101 | Electronic Service<br><br>1400 | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |
| Emma | Fazio | emma.fazio@stoel.com | Stoel Rives LLP | 33 South Sixth Street<br>Suite 4200<br>Minneapolis,<br>MN<br>55402 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |
| Sharon | Ferguson | sharon.ferguson@state.mn.us | Department of Commerce | 85 7th Place E Ste 500<br><br>Saint Paul,<br>MN<br>551012198 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |
| Michael | Hoppe | il23@mtn.org | Local Union 23, I.B.E.W. | 932 Payne Avenue<br><br>St. Paul,<br>MN<br>55130 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |
| Alan | Jenkins | aj@jenkinsatlaw.com | Jenkins at Law | 2265 Roswell Road<br>Suite 100<br>Marietta,<br>GA<br>30062 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |
| Richard | Johnson | Rick.Johnson@lawmoss.com | Moss & Barnett | 150 S. 5th Street<br>Suite 1200<br>Minneapolis,<br>MN<br>55402 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |

| First Name | Last Name | Email | Company Name | Address | Delivery Method | View Trade Secret | Service List Name |
|---|---|---|---|---|---|---|---|
| Mark J. | Kaufman | mkaufman@ibewlocal949.org | IBEW Local Union 949 | 12908 Nicollet Avenue South<br>Burnsville, MN 55337 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |
| Thomas | Koehler | TGK@IBEW160.org | Local Union #160, IBEW | 2909 Anthony Ln<br>St Anthony Village, MN 55418-3238 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |
| Michael | Krikava | mkrikava@briggs.com | Briggs And Morgan, P.A. | 2200 IDS Center<br>80 S 8th St<br>Minneapolis, MN 55402 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |
| Douglas | Larson | dlarson@dakotaelectric.com | Dakota Electric Association | 4300 220th St W<br>Farmington, MN 55024 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |
| John | Lindell | agorud.ecf@ag.state.mn.us | Office of the Attorney General-RUD | 1400 BRM Tower<br>445 Minnesota St<br>St. Paul, MN 551012130 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |
| Pam | Marshall | pam@energycents.org | Energy CENTS Coalition | 823 7th St E<br>St. Paul, MN 55106 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |
| Andrew | Moratzka | apmoratzka@stoel.com | Stoel Rives LLP | 33 South Sixth Street<br>Suite 4200<br>Minneapolis, MN 55402 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |
| David W. | Niles | david.niles@avantenergy.com | Minnesota Municipal Power Agency | Suite 300<br>200 South Sixth Street<br>Minneapolis, MN 55402 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |
| Richard | Savelkoul | rsavelkoul@martinsquires.com | Martin & Squires, P.A. | 332 Minnesota Street Ste W2750<br>St. Paul, MN 55101 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |
| Ken | Smith | ken.smith@districtenergy.com | District Energy St. Paul Inc. | 76 W Kellogg Blvd<br>St. Paul, MN 55102 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |

| First Name | Last Name | Email | Company Name | Address | Delivery Method | View Trade Secret | Service List Name |
|---|---|---|---|---|---|---|---|
| Ron | Spangler, Jr. | rlspangler@otpco.com | Otter Tail Power Company | 215 So. Cascade St.<br>PO Box 496<br>Fergus Falls,<br>MN<br>565380496 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |
| Byron E. | Starns | byron.starns@stinson.com | Stinson Leonard Street LLP | 150 South 5th Street<br>Suite 2300<br>Minneapolis,<br>MN<br>55402 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |
| James M. | Strommen | jstrommen@kennedy-graven.com | Kennedy & Graven, Chartered | 470 U.S. Bank Plaza<br>200 South Sixth Street<br>Minneapolis,<br>MN<br>55402 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |
| Eric | Swanson | eswanson@winthrop.com | Winthrop Weinstine | 225 S 6th St Ste 3500<br>Capella Tower<br>Minneapolis,<br>MN<br>554024629 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |
| SaGonna | Thompson | Regulatory.records@xcelenergy.com | Xcel Energy | 414 Nicollet Mall FL 7<br>Minneapolis,<br>MN<br>554011993 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |
| Lisa | Veith | lisa.veith@ci.stpaul.mn.us | City of St. Paul | 400 City Hall and Courthouse<br>15 West Kellogg Blvd.<br>St. Paul,<br>MN<br>55102 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |
| Daniel P | Wolf | dan.wolf@state.mn.us | Public Utilities Commission | 121 7th Place East<br>Suite 350<br>St. Paul,<br>MN<br>551012147 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |