414 Nicollet Mall
Minneapolis, Minnesota 55401

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

April 1, 2014

**—VIA ELECTRONIC FILING—**

Burl W. Haar
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-14-131

Dear Dr. Haar:

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 2013 report and approve our proposed reliability standards for 2014.

**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) 330-7529 or paul.lehman@xcelenergy.com if you have any questions regarding this filing.

Sincerely,

/s/

PAUL J LEHMAN
MANAGER, REGULATORY COMPLIANCE & FILINGS

Enclosures

c: Service List

STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

| | |
|---|---|
| Beverly Jones Heydinger | Chair |
| David Boyd | Commissioner |
| Nancy Lange | Commissioner |
| Dan Lipschultz | Commissioner |
| Betsy Wergin | Commissioner |

IN THE MATTER OF NORTHERN STATES POWER COMPANY ANNUAL REPORT ON SAFETY, RELIABILITY, AND SERVICE QUALITY FOR 2013; AND PETITION FOR APPROVAL OF ELECTRIC RELIABILITY STANDARDS FOR 2014

DOCKET NO. E002/M-14-131

**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 2013. 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 2014, as required under Minn. R. 7826.0600. In addition, this Annual Report contains several compliance items from varying dockets which we discuss in the section Additional Reporting Requirements on pages 17-18 below.

We respectfully request that the Commission accept our annual report for 2013 and approve our proposed reliability standards for 2014.

## 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
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 - 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, 2014. Xcel Energy requests that the Commission accept this annual report on the Company's performance for 2013. Additionally, we request that our proposed reliability standards be approved for the year 2014. Our report on reliability performance for 2014, subject to the standards approved by the Commission, will be filed on or before April 1, 2015, as required under Minn. R. 7826.0500, subp. 1, for the January 1 through December 31, 2013 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

Paul J Lehman
Manager, Compliance and Filings
Xcel Energy
414 Nicollet Mall – 7th floor
Minneapolis, Minnesota 55401
(612) 330-7529

## 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 2013
- Reliability Performance for 2013
- Service Quality Performance for 2013
- Additional Reporting Requirements
- Proposed Electric Reliability Standards for 2014

On April 1, 2013, the Company filed proposed reliability standards for 2013. The Commission approved our proposed standards in its January 13, 2014 Order in Docket No. E002/M-13-255. This filing contains information on our proposed reliability standards for 2014, as well as information on our performance for 2013 under the approved standards. The standards we propose for 2014 are calculated using the same methodology as previously approved for our 2013 reliability standards; however, as discussed below, we did evaluate and consider other calculation methodologies as well.

### SAFETY PERFORMANCE FOR 2013

> ***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 2013, 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 2012. 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 2013, the Company made no payments in compensation for injuries requiring medical attention resulting from downed wires or other electrical system failures.

## RELIABILITY PERFORMANCE FOR 2013

In Compliance with the Commission's January 13, 2014 Order, we provide additional information in this Annual Report describing the policies, procedures and actions that we have implemented, or are planned to assure reliability:

3. *Xcel shall augment its next annual 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 proactive management of the system as a whole, increased reliability, and active contingency planning.*

4. *Xcel shall incorporate into its next annual 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. *Xcel shall continue to report on the major causes of outages for major event days.*

6. *Xcel shall consider other factors, in addition to historical data, on which to base its reliability indices for 2013 in an effort to demonstrate its commitment toward improving reliability performance.*

7. *Xcel shall continue its efforts in the reporting of 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 2014," beginning on page 21 of this report.

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

***7826.0500 Reliability Reporting Requirements.***
***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:*

A. *The utility's SAIDI for the calendar year, by work center and for its assigned service area as a whole.*
B. *The utility's SAIFI for the calendar year, by work center and for its assigned service area as a whole.*
C. *The utility's CAIDI for the calendar year, by work center and for its assigned service area as a whole.*
D. *An explanation of how the utility normalizes its reliability data to account for major storms.*

On April 1, 2013, as required by Minn. R. 7826.0600, we proposed reliability standards for 2013 for each of our four Minnesota work centers.[1] The Commission approved our proposed standards in their January 13, 2014 Order in Docket No. E002/M-13-255. The table below presents our 2013 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 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 2013, 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.

[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.

**2013 RELIABILITY PERFORMANCE Results**

| | | 2013 Performance Results | 2013 Standard |
|---|---|---|---|
| Minnesota | SAIDI | 93.73 | NA |
| | SAIFI | 0.88 | NA |
| | CAIDI | 106.06 | NA |
| Metro East | SAIDI | 81.28 | 85.44 |
| | SAIFI | 0.83 | 0.94 |
| | CAIDI | **97.75** | 90.75 |
| Metro West | SAIDI | **98.71** | 97.92 |
| | SAIFI | 0.94 | 0.98 |
| | CAIDI | **105.09** | 100.17 |
| Northwest | SAIDI | 95.90 | 102.56 |
| | SAIFI | **0.93** | 0.87 |
| | CAIDI | 102.86 | 117.94 |
| Southeast | SAIDI | **108.83** | 78.16 |
| | SAIFI | **0.75** | 0.71 |
| | CAIDI | **145.11** | 109.97 |

As shown above, in 2013 we met five 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.

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. Several of our missed standards this year were missed by narrow amounts that cannot be explained by any one large event, but rather a few small events over the course of the year.

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

[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.

committed to providing reliable service to our customers and discuss the specific work centers below.

*1. Metro East*

Our CAIDI for the Metro East work center exceeded the threshold by 7 minutes. In examining the outages in the Metro East work center which caused these thresholds to be exceeded, as mentioned above, we found that there was not one large event that caused this but several small events each contributing less than two minutes to the total CAIDI over the course of the year.

*2. Metro West*

Our SAIDI performance in the Metro West work center exceeded the threshold by less than a minute and our CAIDI by 4.92 minutes. We narrowly missed our SAIDI by less than one percent of our standard. Our CAIDI performance can be attributed to a few events including two cable failures in June and a connector failure on August 5, 2013 that caused a feeder level outage.

*3. Northwest*

SAIFI for the Northwest work center region exceeded the threshold by .06 interruptions. Again, this is very close to our goal considering that it is based on a five-year average. However, we did look at the data and found that one event caused by a cable failure contributed .04 interruptions to the overall SAIFI which is more than 60 percent of the SAIFI threshold gap.

*4. Southeast*

Our SAIDI and CAIDI performance in the Southeast work center exceeded our threshold by 30.67 and 35.14 minutes, respectively. In 2013, we had five significant conductor galloping events caused by high winds in April, August and October that accounted for approximately 15 minutes of total SAIDI and CAIDI. These were all lengthy feeder outages with a great deal of territory to cover to find the issue. In addition, there was a substation level outage in May caused by animal contact which contributed nearly 8 minutes to our SAIDI and nearly 2 minutes to CAIDI.

Our SAIFI performance narrowly missed the threshold by .04 interruptions. The substation outage in May mentioned above contributed .05 interruptions alone to SAIFI.

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 2013, 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 2013, there were 605 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 2013, we did not send an email notice to the CAO for 2 of 605 major service interruptions. We remain committed to providing notification for all qualifying outages, and will continue to monitor and improve our processes, as appropriate.

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 2013, 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 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.

[4] SAIFI- 2.666 outages for 2013 in Minnesota. SAIDI – 1,976.05 minutes for 2013 in Minnesota

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 2012 to August 2013 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 2013, 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.

*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 2013, the Company conducted 496 voltage investigations. These investigations resulted in a diagnosis of a specific voltage problem in 232 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 | Southeast | Other * |
|---|---|---|---|---|---|
| **2013 Work Center Staffing Level Totals** | 136 | 195 | 34 | 54 | 51 |

* 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 2013

***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.*

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.

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

The following data for 2013 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-13 | Feb-13 | Mar-13 | Apr-13 | May-13 | Jun-13 | Jul-13 | Aug-13 | Sep-13 | Oct-13 | Nov-13 | Dec-13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Metro East | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 | 5 | 5 |
| Metro West | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Northwest | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Southeast | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 |
| Other | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

> ***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 333,815 customers requested service at a location previously served by the Company in 2013. 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 80.9 percent of calls answered in 20 seconds or less; and
- Our call center service level *excluding* credit calls is 90.6 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.

In our 2012 report, we discussed our plan to implement a new call center application called Call Back Assist (CBA) during 2013. This technology is generically referred to as "virtual hold" because there is a leading vendor by the same name. This is common technology within the contact center industry. When customers call in to the contact center during periods of long wait times, the CBA application provides them the option to be called back automatically instead of waiting in queue. For example, if the expected wait time is 10 minutes, a customer could select to have their phone ring in approximately 10 minutes instead of waiting on the phone line for 10 minutes listening to hold music; CBA keeps the customer's place in the call queue. JD Power data shows that customers are satisfied with this type of technology.

In order to ensure the best customer experience, we delayed deployment of this technology. We expect to deploy this technology within the Company's jurisdictions in April 2014 on a small scale.

Other improvements we plan to make to Call Center processes in 2014 include online outage reporting. Currently, customers have no option other than to call to report an outage. In addition, we plan to begin offering an option to receive a text update on a customer's outage. Currently customers can opt to receive a phone call with updates.

> ***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 2013, we requested a total of 652 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

In compliance with the Commission's Order dated June 5, 2009 and the March 4, 2011 NOTICE CLARIFYING INFORMATION SOUGHT IN SMART GRID REPORTS in Docket No. E999/CI-08-948, we provide an update on our Smart Grid projects as **Attachment K** of this Annual Report.

### 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 2,214 electric and 3,286 natural gas orders with an average response time of 2.99 and 3.05 days, respectively. We additionally completed 287 electric and 608 natural gas field orders for which we experienced access and 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. Notice Requesting Information from Xcel Energy on Substation Equipment Reliability

In response to the Commission's February 18, 2014 Notice Requesting Information from Xcel on Substation Equipment Reliability in this docket, we provide our reply as Attachment P to this filing.

# PROPOSED ELECTRIC RELIABILITY STANDARDS FOR 2013

As discussed above, we submitted proposed reliability standards for 2013 on April 1, 2013. Our proposed standards were approved by the Commission in its January 13, 2014 Order.

In compliance with the Commission's January 13, 2014 Order, we did again consider other factors, in addition to historical data, on which to base our reliability indices for 2014 in an effort to demonstrate our commitment toward improving reliability performance. We considered other factors and methodologies such as means, medians, and standard deviations. However, after evaluating these calculations, we discovered our results would have been largely the same as they are under our current five-year rolling average methodology.

For instance, in examining a target based on the median, mean (after removing high and low values) and using the lowest value from the other three methods (historic, median and mean), we determined the outcome would not have been much different.

We provide the analysis as **Attachment L1** and provide a summary of the results below:

- *Metro East:* We would have remained on target for both SAIDI and SAIFI and remained off target for CAIDI (however, we would have been very close to target using the median calculation).
- *Metro West:* The results would have been the same for SAIFI and CAIDI. SAIDI would have remained off target for two methods and changed to on target using the median calculation.
- *Northwest:* The results would have been the same for all three metrics.
- *Southeast:* The results would have been the same for all three metrics.

After determining the results would not have varied greatly and the belief that there is value in maintaining a historical comparison baseline that has been in effect since 2003, we concluded it would be useful to preserve our five-year rolling methodology. However, we are open to guidance and suggestions for changing the calculation methodology if that is what the Commission prefers.

That being said, we calculated the standards that we propose for 2014 using the same methodology approved for our 2013 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 2013 reliability standards. Because we are proposing no changes to this methodology for the development of our 2014 standards, in this Section, we simply provide a brief discussion of reliability indices and our method of calculation, and we set forth our proposed reliability standards for 2014.

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 2013 were based on the average of our 5-year reliability performance (2009-2013). Consistent with that methodology, we provide as **Attachment L** to this Annual Report, our historical reliability performance for the 2009-2013 period to support our proposed 2014 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 2013 that are consistent with those approved for 2012.

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 2014

As required by Minn. R. 7826.0600, subp. 1, we propose the following 2014 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 2014 Reliability Standards**

| | | Proposed Standard |
|---|---|---|
| Metro East | SAIDI | 82.41 |
| | SAIFI | 0.88 |
| | CAIDI | 93.72 |
| Metro West | SAIDI | 97.41 |
| | SAIFI | 0.95 |
| | CAIDI | 102.11 |
| Northwest | SAIDI | 90.27 |
| | SAIFI | 0.81 |
| | CAIDI | 111.70 |
| Southeast | SAIDI | 86.31 |
| | SAIFI | 0.71 |
| | CAIDI | 121.42 |

## 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 2014 as detailed in this Petition.

Dated: April 1, 2014

Northern States Power Company

STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

| | |
|---|---|
| Beverly Jones Heydinger | Chair |
| David Boyd | Commissioner |
| Nancy Lange | Commissioner |
| Dan Lipschultz | Commissioner |
| Betsy Wergin | Commissioner |

| | |
|---|---|
| IN THE MATTER OF NORTHERN STATES POWER COMPANY, A MINNESOTA CORPORATION, ANNUAL REPORT ON SAFETY, RELIABILITY, AND SERVICE QUALITY FOR 2013; AND PETITION FOR APPROVAL OF ELECTRIC RELIABILITY STANDARDS FOR 2014 | DOCKET NO. E002/M-14-131<br><br>**ANNUAL REPORT AND PETITION** |

**SUMMARY OF FILING**

Please take notice that on April 1, 2014, 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 2014 as required under Minn. R. 7826.0600. In addition, this Annual Report contains: 1) our annual Smart Grid update in compliance with the Commission's June 5, 2009 Order and the March 4, 2011 Notice in Docket No. E999/CI-08-948; 2) additional reporting of currently available MAIFI (Momentary Average Interruption Frequency Index) in compliance with the Commission's September 3, 2013 Order in Docket No. E002/GR-12-961; 3) 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 4) our response to the Commission's February 18, 2014 Notice Requesting Information from Xcel Energy on Substation Equipment Reliability in this docket.

# Annual Report on Safety, Reliability, and Service Quality for 2013 and Petition for Approval of Electric Reliability Standards for 2014

## Attachment Table of Contents

**U.S. Department of Labor- Bureau of Labor Statistics**
**Survey of Occupational Injuries & Illnesses 2013**
**Xcel Energy - Minnesota**

Data from 2013 OSHA Form 300

| 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 |
| A.S. King Plant | 109 | 220614 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| General Office | 618 | 1134422 | 0 | 1 | 0 | 1 | 8 | 5 | 2 | 0 | 0 | 0 | 0 | 0 |
| Maple Grove Service Center | 599 | 1396153 | 0 | 3 | 6 | 9 | 151 | 178 | 18 | 0 | 0 | 0 | 0 | 0 |
| Monticello Nuclear | 675 | 1521593 | 0 | 2 | 0 | 3 | 80 | 60 | 5 | 0 | 0 | 0 | 0 | 0 |
| Prairie Island Nuclear | 860 | 1875385 | 0 | 2 | 0 | 1 | 14 | 129 | 3 | 0 | 0 | 0 | 0 | 0 |
| Sherco Plant | 361 | 748083 | 0 | 0 | 5 | 7 | 125 | 0 | 12 | 0 | 0 | 0 | 0 | 0 |
| St. Cloud Service Center | 78 | 151784 | 0 | 0 | 1 | 2 | 60 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| Summary | 3300 | 7048034 | 0 | 8 | 12 | 24 | 438 | 372 | 44 | 0 | 0 | 0 | 0 | 0 |

| Event Number | Event Date | Event Cause Code | Event Cause Description | Paid Sum |
|---|---|---|---|---:|
| EV2013120377 | 1/17/2013 | 1106 | Conductors - Overhead | $25.00 |
| EV2013120404 | 1/13/2013 | 1107 | Conductors - Underground | $0.00 |
| EV2013120433 | 1/17/2013 | 1129 | Transformer Under Ground | $0.00 |
| EV2013120446 | 1/12/2013 | 1106 | Conductors - Overhead | $472.98 |
| EV2013120517 | 1/22/2013 | 1133 | Weather- Damage from | $1,395.74 |
| EV2013120557 | 1/25/2013 | 1106 | Conductors - Overhead | $1,500.00 |
| EV2013120565 | 1/8/2013 | 1101 | Abnormal Voltage | $0.00 |
| EV2013120631 | 1/4/2013 | 1129 | Transformer Under Ground | $1,350.00 |
| EV2013120633 | 2/14/2013 | 1107 | Conductors - Underground | $321.19 |
| EV2013120681 | 2/20/2013 | 1136 | Outage | $0.00 |
| EV2013120737 | 1/20/2013 | 1101 | Abnormal Voltage | $0.00 |
| EV2013120752 | 2/1/2013 | 1107 | Conductors - Underground | $145.00 |
| EV2013120767 | 2/26/2013 | 1106 | Conductors - Overhead | $0.00 |
| EV2013120781 | 2/16/2013 | 1107 | Conductors - Underground | $0.00 |
| EV2013120785 | 1/29/2013 | 1106 | Conductors - Overhead | $0.00 |
| EV2013120793 | 2/21/2013 | 1110 | Equipment Failure | $0.00 |
| EV2013120799 | 2/21/2013 | 1107 | Conductors - Underground | $1,158.90 |
| EV2013120804 | 3/4/2013 | 1136 | Outage | $0.00 |
| EV2013120846 | 2/12/2013 | 1136 | Outage | $0.00 |
| EV2013120859 | 2/26/2013 | 1107 | Conductors - Underground | $461.17 |
| EV2013120862 | 1/8/2013 | 1101 | Abnormal Voltage | $0.00 |
| EV2013120885 | 3/19/2013 | 1101 | Abnormal Voltage | $869.21 |
| EV2013120889 | 2/22/2013 | 1106 | Conductors - Overhead | $150.00 |
| EV2013120931 | 3/31/2013 | 1136 | Outage | $0.00 |
| EV2013120944 | 4/15/2013 | 1134 | Work Performed Electrical | $199.00 |
| EV2013120946 | 2/12/2013 | 1110 | Equipment Failure | $0.00 |
| EV2013120953 | 3/25/2013 | 1101 | Abnormal Voltage | $0.00 |
| EV2013120954 | 3/6/2013 | 1107 | Conductors - Underground | $767.56 |
| EV2013120976 | 2/13/2013 | 1136 | Outage | $2,595.90 |
| EV2013121005 | 3/20/2013 | 1110 | Equipment Failure | $0.00 |
| EV2013121067 | 3/28/2013 | 1136 | Outage | $176.26 |
| EV2013121069 | 4/11/2013 | 1110 | Equipment Failure | $0.00 |
| EV2013121074 | 4/24/2013 | 1106 | Conductors - Overhead | $700.21 |
| EV2013121090 | 4/14/2013 | 1136 | Outage | $0.00 |
| EV2013121096 | 4/22/2013 | 1110 | Equipment Failure | $0.00 |
| EV2013121097 | 3/7/2013 | 1107 | Conductors - Underground | $1,053.19 |
| EV2013121098 | 4/23/2013 | 1106 | Conductors - Overhead | $354.28 |
| EV2013121099 | 3/12/2013 | 1107 | Conductors - Underground | $0.00 |
| EV2013121107 | 4/25/2013 | 1106 | Conductors - Overhead | $0.00 |
| EV2013121108 | 3/9/2013 | 1106 | Conductors - Overhead | $146.25 |
| EV2013121110 | 4/9/2013 | 1107 | Conductors - Underground | $675.00 |
| EV2013121123 | 4/23/2013 | 1106 | Conductors - Overhead | $185.00 |
| EV2013121143 | 3/18/2013 | 1136 | Outage | $0.00 |
| EV2013121149 | 5/8/2013 | 1122 | Poles & Towers | $150.00 |
| EV2013121150 | 4/3/2013 | 1110 | Equipment Failure | $0.00 |
| EV2013121153 | 4/23/2013 | 1101 | Abnormal Voltage | $0.00 |
| EV2013121165 | 4/28/2013 | 1107 | Conductors - Underground | $0.00 |
| EV2013121168 | 1/28/2013 | 1107 | Conductors - Underground | $2,195.70 |
| EV2013121171 | 4/23/2013 | 1101 | Abnormal Voltage | $106.00 |
| EV2013121180 | 5/14/2013 | 1106 | Conductors - Overhead | $7,246.76 |
| EV2013121182 | 5/21/2013 | 1101 | Abnormal Voltage | $0.00 |

| Event Number | Event Date | Event Cause Code | Event Cause Description | Paid Sum |
|---|---|---|---|---:|
| EV2013121247 | 5/28/2013 | 1106 | Conductors - Overhead | $0.00 |
| EV2013121257 | 4/7/2013 | 1106 | Conductors - Overhead | $78.75 |
| EV2013121292 | 4/19/2013 | 1107 | Conductors - Underground | $210.90 |
| EV2013121293 | 3/8/2013 | 1136 | Outage | $0.00 |
| EV2013121300 | 5/2/2013 | 1136 | Outage | $50.00 |
| EV2013121320 | 5/22/2013 | 1107 | Conductors - Underground | $94.50 |
| EV2013121321 | 5/8/2013 | 1106 | Conductors - Overhead | $153.00 |
| EV2013121325 | 5/27/2013 | 1130 | Tree Trimming | $200.00 |
| EV2013121326 | 4/18/2013 | 1110 | Equipment Failure | $0.00 |
| EV2013121381 | 6/21/2013 | 1136 | Outage | $0.00 |
| EV2013121381 | 6/21/2013 | 1136 | Outage | $10,197.82 |
| EV2013121382 | 6/21/2013 | 1136 | Outage | $0.00 |
| EV2013121382 | 6/21/2013 | 1136 | Outage | $0.00 |
| EV2013121382 | 6/21/2013 | 1136 | Outage | $23,992.08 |
| EV2013121427 | 4/15/2013 | 1136 | Outage | $278.00 |
| EV2013121456 | 6/5/2013 | 1136 | Outage | $0.00 |
| EV2013121460 | 7/3/2013 | 1128 | Transformer Overhead | $236.60 |
| EV2013121466 | 5/2/2013 | 1136 | Outage | $3,907.51 |
| EV2013121468 | 5/31/2013 | 1136 | Outage | $0.00 |
| EV2013121474 | 4/18/2013 | 1110 | Equipment Failure | $0.00 |
| EV2013121482 | 6/11/2013 | 1136 | Outage | $0.00 |
| EV2013121495 | 6/17/2013 | 1136 | Outage | $0.00 |
| EV2013121506 | 6/20/2013 | 1106 | Conductors - Overhead | $545.00 |
| EV2013121509 | 6/5/2013 | 1107 | Conductors - Underground | $90.00 |
| EV2013121519 | 5/28/2013 | 1136 | Outage | $0.00 |
| EV2013121522 | 6/18/2013 | 1101 | Abnormal Voltage | $87.75 |
| EV2013121526 | 5/9/2013 | 1106 | Conductors - Overhead | $367.50 |
| EV2013121551 | 4/22/2013 | 1106 | Conductors - Overhead | $285.00 |
| EV2013121552 | 6/14/2013 | 1122 | Poles & Towers | $4,685.00 |
| EV2013121555 | 6/19/2013 | 1136 | Outage | $0.00 |
| EV2013121557 | 6/13/2013 | 1128 | Transformer Overhead | $0.00 |
| EV2013121560 | 6/23/2013 | 1128 | Transformer Overhead | $860.00 |
| EV2013121565 | 5/21/2013 | 1101 | Abnormal Voltage | $0.00 |
| EV2013121587 | 6/25/2013 | 1130 | Tree Trimming | $0.00 |
| EV2013121594 | 7/9/2013 | 1128 | Transformer Overhead | $64.31 |
| EV2013121604 | 7/7/2013 | 1136 | Outage | $0.00 |
| EV2013121624 | 5/26/2013 | 1136 | Outage | $0.00 |
| EV2013121635 | 6/1/2013 | 1136 | Outage | $0.00 |
| EV2013121665 | 5/29/2013 | 1136 | Outage | $0.00 |
| EV2013121673 | 6/28/2013 | 1107 | Conductors - Underground | $0.00 |
| EV2013121674 | 6/21/2013 | 1136 | Outage | $0.00 |
| EV2013121680 | 7/21/2013 | 1107 | Conductors - Underground | $90.00 |
| EV2013121681 | 6/26/2013 | 1134 | Work Performed Electrical | $104.00 |
| EV2013121682 | 6/26/2013 | 1107 | Conductors - Underground | $103.80 |
| EV2013121686 | 7/2/2013 | 1122 | Poles & Towers | $1,139.46 |
| EV2013121688 | 7/8/2013 | 1110 | Equipment Failure | $0.00 |
| EV2013121718 | 7/2/2013 | 1128 | Transformer Overhead | $242.58 |
| EV2013121725 | 7/15/2013 | 1107 | Conductors - Underground | $0.00 |
| EV2013121725 | 7/15/2013 | 1107 | Conductors - Underground | $83.00 |
| EV2013121731 | 8/3/2013 | 1108 | Contact with Electrical | $0.00 |
| EV2013121747 | 7/19/2013 | 1106 | Conductors - Overhead | $87.75 |

| Event Number | Event Date | Event Cause Code | Event Cause Description | Paid Sum |
|---|---|---|---|---|
| EV2013121757 | 7/5/2013 | 1106 | Conductors - Overhead | $0.00 |
| EV2013121767 | 7/2/2013 | 1122 | Poles & Towers | $0.00 |
| EV2013121782 | 7/20/2013 | 1101 | Abnormal Voltage | $0.00 |
| EV2013121787 | 7/13/2013 | 1106 | Conductors - Overhead | $0.00 |
| EV2013121790 | 7/22/2013 | 1101 | Abnormal Voltage | $0.00 |
| EV2013121793 | 7/11/2013 | 1106 | Conductors - Overhead | $776.25 |
| EV2013121794 | 6/3/2013 | 1110 | Equipment Failure | $0.00 |
| EV2013121841 | 6/27/2013 | 1122 | Poles & Towers | $4,831.63 |
| EV2013121842 | 3/29/2013 | 1107 | Conductors - Underground | $0.00 |
| EV2013121848 | 3/25/2013 | 1110 | Equipment Failure | $0.00 |
| EV2013121862 | 5/24/2013 | 1106 | Conductors - Overhead | $0.00 |
| EV2013121869 | 7/21/2013 | 1107 | Conductors - Underground | $0.00 |
| EV2013121872 | 7/6/2013 | 1106 | Conductors - Overhead | $200.00 |
| EV2013121877 | 3/2/2013 | 1107 | Conductors - Underground | $725.00 |
| EV2013121878 | 7/22/2013 | 1101 | Abnormal Voltage | $600.00 |
| EV2013121881 | 7/6/2013 | 1101 | Abnormal Voltage | $0.00 |
| EV2013121882 | 8/19/2013 | 1107 | Conductors - Underground | $3,308.81 |
| EV2013121889 | 7/8/2013 | 1136 | Outage | $0.00 |
| EV2013121890 | 7/26/2013 | 1136 | Outage | $0.00 |
| EV2013121896 | 7/12/2013 | 1110 | Equipment Failure | $39.00 |
| EV2013121898 | 6/22/2013 | 1106 | Conductors - Overhead | $6,174.00 |
| EV2013121919 | 4/22/2013 | 1131 | Vegetation | $1,895.00 |
| EV2013121926 | 7/26/2013 | 1101 | Abnormal Voltage | $0.00 |
| EV2013121927 | 8/29/2013 | 1101 | Abnormal Voltage | $0.00 |
| EV2013121932 | 6/11/2013 | 1136 | Outage | $0.00 |
| EV2013121935 | 8/8/2013 | 1136 | Outage | $1,177.00 |
| EV2013121953 | 6/20/2013 | 1131 | Vegetation | $2,639.09 |
| EV2013121955 | 8/22/2013 | 1106 | Conductors - Overhead | $0.00 |
| EV2013121987 | 7/2/2013 | 1122 | Poles & Towers | $1,064.41 |
| EV2013122006 | 8/20/2013 | 1107 | Conductors - Underground | $0.00 |
| EV2013122007 | 8/20/2013 | 1122 | Poles & Towers | $312.83 |
| EV2013122009 | 6/12/2013 | 1106 | Conductors - Overhead | $2,487.59 |
| EV2013122011 | 5/13/2013 | 1101 | Abnormal Voltage | $612.52 |
| EV2013122015 | 8/6/2013 | 1101 | Abnormal Voltage | $5,895.20 |
| EV2013122022 | 7/26/2013 | 1136 | Outage | $0.00 |
| EV2013122031 | 6/16/2013 | 1106 | Conductors - Overhead | $0.00 |
| EV2013122034 | 7/13/2013 | 1106 | Conductors - Overhead | $0.00 |
| EV2013122049 | 8/7/2013 | 1106 | Conductors - Overhead | $193.36 |
| EV2013122055 | 7/9/2013 | 1101 | Abnormal Voltage | $3,301.00 |
| EV2013122058 | 8/17/2013 | 1136 | Outage | $0.00 |
| EV2013122063 | 8/6/2013 | 1122 | Poles & Towers | $695.00 |
| EV2013122069 | 7/2/2013 | 1136 | Outage | $0.00 |
| EV2013122077 | 9/10/2013 | 1106 | Conductors - Overhead | $200.00 |
| EV2013122078 | 8/27/2013 | 1110 | Equipment Failure | $0.00 |
| EV2013122102 | 8/16/2013 | 1136 | Outage | $699.76 |
| EV2013122103 | 7/18/2013 | 1101 | Abnormal Voltage | $0.00 |
| EV2013122105 | 8/15/2013 | 1107 | Conductors - Underground | $1,628.00 |
| EV2013122114 | 8/28/2013 | 1101 | Abnormal Voltage | $487.50 |
| EV2013122117 | 5/23/2013 | 1106 | Conductors - Overhead | $1,274.00 |
| EV2013122121 | 9/6/2013 | 1136 | Outage | $0.00 |
| EV2013122132 | 6/12/2013 | 1136 | Outage | $0.00 |

| Event Number | Event Date | Event Cause Code | Event Cause Description | Paid Sum |
|---|---|---|---|---|
| EV2013122133 | 4/29/2013 | 1134 | Work Performed Electrical | $0.00 |
| EV2013122136 | 9/18/2013 | 1136 | Outage | $0.00 |
| EV2013122139 | 8/10/2013 | 1107 | Conductors - Underground | $0.00 |
| EV2013122142 | 6/6/2013 | 1107 | Conductors - Underground | $0.00 |
| EV2013122143 | 8/6/2013 | 1122 | Poles & Towers | $1,080.00 |
| EV2013122151 | 9/27/2013 | 1106 | Conductors - Overhead | $0.00 |
| EV2013122152 | 9/3/2013 | 1106 | Conductors - Overhead | $160.00 |
| EV2013122200 | 10/4/2013 | 1107 | Conductors - Underground | $254.25 |
| EV2013122201 | 9/13/2013 | 1106 | Conductors - Overhead | $1,300.00 |
| EV2013122211 | 10/9/2013 | 1106 | Conductors - Overhead | $0.00 |
| EV2013122226 | 8/20/2013 | 1122 | Poles & Towers | $0.00 |
| EV2013122248 | 8/24/2013 | 1106 | Conductors - Overhead | $0.00 |
| EV2013122251 | 9/6/2013 | 1127 | Tools-Machines-Equip-Contain-non-electric | $119.66 |
| EV2013122262 | 9/8/2013 | 1130 | Tree Trimming | $0.00 |
| EV2013122263 | 7/1/2013 | 1106 | Conductors - Overhead | $0.00 |
| EV2013122266 | 6/16/2013 | 1106 | Conductors - Overhead | $5,538.10 |
| EV2013122279 | 10/2/2013 | 1101 | Abnormal Voltage | $0.00 |
| EV2013122293 | 10/5/2013 | 1106 | Conductors - Overhead | $0.00 |
| EV2013122294 | 9/15/2013 | 1133 | Weather- Damage from | $0.00 |
| EV2013122296 | 8/6/2013 | 1133 | Weather- Damage from | $0.00 |
| EV2013122297 | 7/19/2013 | 1107 | Conductors - Underground | $0.00 |
| EV2013122298 | 8/13/2013 | 1106 | Conductors - Overhead | $0.00 |
| EV2013122319 | 8/23/2013 | 1136 | Outage | $0.00 |
| EV2013122337 | 7/9/2013 | 1106 | Conductors - Overhead | $0.00 |
| EV2013122349 | 10/7/2013 | 1107 | Conductors - Underground | $0.00 |
| EV2013122352 | 10/11/2013 | 1106 | Conductors - Overhead | $0.00 |
| EV2013122367 | 10/11/2013 | 1101 | Abnormal Voltage | $170.94 |
| EV2013122369 | 9/17/2013 | 1101 | Abnormal Voltage | $299.40 |
| EV2013122370 | 10/14/2013 | 1101 | Abnormal Voltage | $0.00 |
| EV2013122406 | 10/12/2013 | 1130 | Tree Trimming | $535.00 |
| EV2013122439 | 10/29/2013 | 1107 | Conductors - Underground | $0.00 |
| EV2013122443 | 9/28/2013 | 1106 | Conductors - Overhead | $0.00 |
| EV2013122448 | 10/18/2013 | 1101 | Abnormal Voltage | $2,073.24 |
| EV2013122465 | 9/4/2013 | 1136 | Outage | $11,272.82 |
| EV2013122475 | 9/9/2013 | 1136 | Outage | $100.00 |
| EV2013122476 | 10/16/2013 | 1107 | Conductors - Underground | $0.00 |
| EV2013122477 | 10/22/2013 | 1106 | Conductors - Overhead | $287.00 |
| EV2013122481 | 10/7/2013 | 1122 | Poles & Towers | $1,498.65 |
| EV2013122484 | 10/2/2013 | 1106 | Conductors - Overhead | $0.00 |
| EV2013122486 | 4/30/2013 | 1122 | Poles & Towers | $659.56 |
| EV2013122489 | 7/11/2013 | 1110 | Equipment Failure | $0.00 |
| EV2013122490 | 7/26/2013 | 1110 | Equipment Failure | $0.00 |
| EV2013122507 | 9/26/2013 | 1134 | Work Performed Electrical | $100.00 |
| EV2013122509 | 10/14/2013 | 1101 | Abnormal Voltage | $0.00 |
| EV2013122547 | 11/8/2013 | 1134 | Work Performed Electrical | $298.60 |
| EV2013122575 | 8/29/2013 | 1110 | Equipment Failure | $0.00 |
| EV2013122587 | 8/30/2013 | 1110 | Equipment Failure | $0.00 |
| EV2013122588 | 10/5/2013 | 1128 | Transformer Overhead | $0.00 |
| EV2013122603 | 11/12/2013 | 1106 | Conductors - Overhead | $72.00 |
| EV2013122614 | 9/10/2013 | 1106 | Conductors - Overhead | $0.00 |
| EV2013122621 | 6/29/2013 | 1106 | Conductors - Overhead | $3,680.00 |

| Event Number | Event Date | Event Cause Code | Event Cause Description | Paid Sum |
|---|---|---|---|---:|
| EV2013122637 | 7/21/2013 | 1107 | Conductors - Underground | $0.00 |
| EV2013122640 | 9/28/2013 | 1106 | Conductors - Overhead | $0.00 |
| EV2013122641 | 9/20/2013 | 1107 | Conductors - Underground | $0.00 |
| EV2013122643 | 1/15/2013 | 1122 | Poles & Towers | $1,075.00 |
| EV2013122659 | 9/5/2013 | 1106 | Conductors - Overhead | $450.22 |
| EV2013122666 | 12/1/2013 | 1106 | Conductors - Overhead | $0.00 |
| EV2013122667 | 9/27/2013 | 1122 | Poles & Towers | $5,177.08 |
| EV2013122677 | 9/15/2013 | 1106 | Conductors - Overhead | $0.00 |
| EV2013122699 | 8/29/2013 | 1128 | Transformer Overhead | $0.00 |
| EV2013122768 | 9/2/2013 | 1107 | Conductors - Underground | $0.00 |
| EV2013122778 | 12/29/2013 | 1106 | Conductors - Overhead | $295.00 |
| EV2013122779 | 12/2/2013 | 1107 | Conductors - Underground | $271.25 |
| EV2013122780 | 12/10/2013 | 1107 | Conductors - Underground | $0.00 |
| EV2013122799 | 7/1/2013 | 1106 | Conductors - Overhead | $4,740.44 |
| EV2013122812 | 11/13/2013 | 1128 | Transformer Overhead | $785.80 |
| EV2013122819 | 11/17/2013 | 1106 | Conductors - Overhead | $0.00 |
| EV2013122820 | 7/2/2013 | 1110 | Equipment Failure | $0.00 |
| EV2013122823 | 11/7/2013 | 1107 | Conductors - Underground | $75.00 |
| EV2013122828 | 4/15/2013 | 1106 | Conductors - Overhead | $0.00 |
| EV2013122889 | 12/20/2013 | 1134 | Work Performed Electrical | $0.00 |
| EV2013122898 | 9/15/2013 | 1107 | Conductors - Underground | $251.00 |
| EV2013122904 | 11/5/2013 | 1136 | Outage | $0.00 |
| EV2013122916 | 10/15/2013 | 1101 | Abnormal Voltage | $0.00 |
| EV2013122936 | 12/31/2013 | 1110 | Equipment Failure | $0.00 |
| EV2013122937 | 11/7/2013 | 1107 | Conductors - Underground | $926.80 |
| EV2013122938 | 9/9/2013 | 1107 | Conductors - Underground | $2,400.00 |
| EV2013122951 | 8/6/2013 | 1106 | Conductors - Overhead | $7,615.98 |
| EV2013122956 | 12/14/2013 | 1106 | Conductors - Overhead | $14,497.00 |
| EV2013122960 | 6/22/2013 | 1101 | Abnormal Voltage | $0.00 |
| EV2013122962 | 10/22/2013 | 1122 | Poles & Towers | $442.20 |
| EV2013122981 | 12/26/2013 | 1107 | Conductors - Underground | $1,043.91 |
| EV2013123029 | 11/17/2013 | 1106 | Conductors - Overhead | $0.00 |
| EV2013123045 | 12/6/2013 | 1106 | Conductors - Overhead | $0.00 |
| EV2013123055 | 12/6/2013 | 1106 | Conductors - Overhead | $686.80 |
| EV2013123079 | 6/5/2013 | 1136 | Outage | $0.00 |
| EV2013123132 | 12/30/2013 | 1110 | Equipment Failure | $0.00 |
| EV2013123143 | 12/30/2013 | 1110 | Equipment Failure | $0.00 |

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

| Line | Begin Date | Begin Time2 | Duration Hrs | Duration Mins | Cause | Comments | Remedial Action |
|---|---|---|---|---|---|---|---|
| **[Security Data Begins** | | | | | | **[Security and Privacy Data Begins** | |
| | 1/23/2013 | 15:12 | 0<br>0<br>1 | 22<br>25<br>6 | Other Utility | | No Remedial Action by Xcel Energy |
| | 1/28/2013 | 12:07 | | 50 | Other Utility | | No Remedial Action by Xcel Energy |
| | 1/31/2013 | 22:36 | 4 | 55 | Other Utility | | No Remedial Action by Xcel Energy |
| | 3/11/2013 | 03:13 | 2 | 18 | Other Utility | | No Remedial Action by Xcel Energy |
| | 3/18/2013 | 06:12 | 2 | 9 | Other Utility | | No Remedial Action by Xcel Energy |
| | 3/21/2013 | 10:54 | | 25<br>29 | Switch/MOD Failure | | Replace MOD Batteries |
| | 3/26/2013 | 22:10 | 1 | 32 | Conductor Failure | | Splice Conductor |
| | 4/14/2013 | 07:53 | 1 | 5 | Conductor Contact - Galloping | | No Remedial Action by Xcel Energy |
| | 4/15/2013 | 00:14 | 1 | 39 | Forced/Planned Outage | | No Remedial Action by Xcel Energy |
| | 4/15/2013 | 19:05 | <br>1 | 37<br>20 | Other Utility | | No Remedial Action by Xcel Energy |

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



| Line | Begin Date | Begin Time2 | Duration Hrs | Duration Mins | Cause | Comments | Remedial Action |
|---|---|---|---|---|---|---|---|
| | 5/2/2013 | 05:20 | 2 | 33 | Unknown | | No Remedial Action by Xcel Energy |
| | 5/17/2013 | 16:13 | | 22 | Pole Fire | | Poles have been restored |
| | 5/19/2013 | 17:55 | 2 | 5 | Pole Broken | | No Remedial Action by Xcel Energy |
| | 5/29/2013 | 00:14 | 2 | 12 | Animal Contact | | Repairs were made |
| | 6/1/2013 | 19:12 | 3<br>3<br>3 | 28<br>37<br>50 | Unknown | | No Remedial Action by Xcel Energy |
| | 6/20/2013 | 11:08 | <br>1 | 57<br>12 | Insulator Glass/Porc Line | | Insulator replaced, line restored |
| | 6/21/2013 | 02:43 | | 9 | Tree in Line | | Tree removed. Relay settings adjusted at Quarry. |
| | 6/21/2013 | 02:44 | 1 | 26 | Line Equipment Failure | | Line restored |
| | 6/21/2013 | 19:37 | 1<br>1 | 54<br>18 | Other Utility | | No Remedial Action by Xcel Energy |
| | 7/24/2013 | 18:08 | <br>1<br><br>1 | 37<br>33<br>37<br>28 | Unknown | | No Remedial Action by Xcel Energy |

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



| Line | Begin Date | Begin Time2 | Duration Hrs | Duration Mins | Cause | Comments | Remedial Action |
|---|---|---|---|---|---|---|---|
| | 7/30/2013 | 06:24 | | 59 | Connector Failure Crimped | | Line restored |
| | | | 1 | 20 | | | |
| | | | 1 | 14 | | | |
| | 8/11/2013 | 14:46 | | 56 | Other Utility | | No Remedial Action by Xcel Energy |
| | | | | 6 | | | |
| | 8/16/2013 | 23:49 | 1 | 42 | Public Damage Broken Pole | | Pole has been replaced. |
| | 8/27/2013 | 15:31 | | 38 | Public Damage Broken Pole | | Pole has been replaced. |
| | 10/2/2013 | 18:51 | 1 | 45 | Pole Broken | | Structures have been restored. |
| | | | | 46 | | | |
| | 10/2/2013 | 21:33 | | 55 | Insulator Glass/Porc Line | | Line restored |
| | 10/3/2013 | 03:08 | | 40 | Relay Failure | | Relay settings were corrected |
| | 11/8/2013 | 20:27 | 1 | 55 | Other Utility | | No Remedial Action by Xcel Energy |
| | 12/5/2013 | 04:07 | 2 | 25 | Conductor Contact - Galloping | | No Remedial Action by Xcel Energy |
| | | | 3 | 33 | | | |
| | 12/9/2013 | 20:40 | | 13 | Conductor Contact - Galloping | | No Remedial Action by Xcel Energy |
| | | | | 12 | | | |
| **Security Data Ends]** | | | | | | **Security and Privacy Data Ends]** | |

# Attachment D

This attachment has been efiled separately due to its 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 | | 3.77 | 703.14 | 186.61 | 13 | 211 | 39,376 | 2 | 118 | 4,897 | 12 | 210 | 39,215 | 1 | 1 | 161 |
| 2 | | 5.33 | 428.76 | 80.48 | 9 | 309 | 24,868 | 0 | 0 | 0 | 9 | 309 | 24,868 | 0 | 0 | 0 |
| 3 | | 3.24 | 418.55 | 129.17 | 28 | 5,745 | 742,088 | 0 | 0 | 0 | 23 | 5,677 | 738,212 | 5 | 68 | 3,876 |
| 4 | | 5.17 | 393.66 | 76.15 | 19 | 2,471 | 188,170 | 1 | 1,579 | 132,636 | 17 | 2,463 | 187,489 | 2 | 8 | 681 |
| 5 | | 0.29 | 378.55 | 1,319.00 | 9 | 64 | 84,416 | 0 | 0 | 0 | 6 | 50 | 13,409 | 3 | 14 | 71,007 |
| 6 | | 1.11 | 352.41 | 318.28 | 63 | 1,817 | 578,309 | 0 | 0 | 0 | 48 | 1,690 | 570,002 | 15 | 127 | 8,307 |
| 7 | | 2.65 | 336.43 | 127.01 | 21 | 4,299 | 546,028 | 1 | 1,628 | 91,168 | 19 | 4,288 | 545,357 | 2 | 11 | 671 |
| 8 | | 0.08 | 310.79 | 4,125.00 | 1 | 11 | 45,375 | 0 | 0 | 0 | 1 | 11 | 45,375 | 0 | 0 | 0 |
| 9 | | 2.77 | 301.16 | 108.75 | 18 | 612 | 66,557 | 0 | 0 | 0 | 18 | 612 | 66,557 | 0 | 0 | 0 |
| 10 | | 1.12 | 251.28 | 224.43 | 11 | 552 | 123,883 | 0 | 0 | 0 | 11 | 552 | 123,883 | 0 | 0 | 0 |
| 11 | | 1.79 | 242.22 | 134.97 | 45 | 1,922 | 259,417 | 0 | 0 | 0 | 40 | 1,721 | 252,331 | 5 | 201 | 7,086 |
| 12 | | 2.14 | 237.36 | 110.71 | 37 | 4,363 | 483,032 | 0 | 0 | 0 | 24 | 4,298 | 479,159 | 13 | 65 | 3,873 |
| 13 | | 2.62 | 235.22 | 89.92 | 54 | 4,222 | 379,646 | 1 | 2,956 | 248,304 | 41 | 3,694 | 341,232 | 13 | 528 | 38,414 |
| 14 | | 3.00 | 234.19 | 78.06 | 5 | 78 | 6,089 | 0 | 0 | 0 | 5 | 78 | 6,089 | 0 | 0 | 0 |
| 15 | | 2.35 | 233.44 | 99.37 | 9 | 639 | 63,495 | 1 | 275 | 1,650 | 4 | 599 | 59,084 | 5 | 40 | 4,411 |
| 16 | | 0.90 | 216.67 | 240.22 | 4 | 46 | 11,050 | 0 | 0 | 0 | 4 | 46 | 11,050 | 0 | 0 | 0 |
| 17 | | 1.06 | 215.09 | 203.54 | 8 | 149 | 30,328 | 0 | 0 | 0 | 8 | 149 | 30,328 | 0 | 0 | 0 |
| 18 | | 3.64 | 204.70 | 56.20 | 20 | 8,669 | 487,196 | 1 | 3,348 | 36,828 | 16 | 8,633 | 486,344 | 4 | 36 | 852 |
| 19 | | 1.44 | 201.93 | 140.01 | 120 | 4,305 | 602,754 | 0 | 0 | 0 | 50 | 3,689 | 533,840 | 70 | 616 | 68,914 |
| 20 | | 1.97 | 198.19 | 100.78 | 44 | 4,946 | 498,453 | 0 | 0 | 0 | 37 | 4,518 | 491,545 | 7 | 428 | 6,908 |
| 21 | | 0.68 | 187.98 | 275.53 | 42 | 1,589 | 437,815 | 0 | 0 | 0 | 32 | 1,474 | 434,015 | 10 | 115 | 3,800 |
| 22 | | 2.06 | 182.68 | 88.49 | 6 | 3,144 | 278,215 | 1 | 1,527 | 10,689 | 6 | 3,144 | 278,215 | 0 | 0 | 0 |
| 23 | | 2.30 | 182.58 | 79.21 | 12 | 892 | 70,658 | 2 | 747 | 44,468 | 10 | 825 | 69,509 | 2 | 67 | 1,149 |
| 24 | | 1.09 | 181.75 | 166.97 | 12 | 824 | 137,584 | 0 | 0 | 0 | 10 | 822 | 137,091 | 2 | 2 | 493 |
| 25 | | 0.56 | 180.94 | 320.33 | 43 | 1,546 | 495,237 | 0 | 0 | 0 | 30 | 1,429 | 474,236 | 13 | 117 | 21,001 |

(1) Based on Jan 1-Dec 31, year-end storm normalized data
"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 2012 to Aug 2013

| Feeder ID | SAIFI | SAIDI | CAIDI | Reasons for Poor Performance | Operational Changes Made, Considering or Planned |
|---|---|---|---|---|---|
| | 1.83 | 1,540.41 | 841.75 | Vegetation and storms | Additional tree trimming is being considered |
| | 2.35 | 666.62 | 283.67 | Vegetation and storms | Additional trimming and add fault indicators |
| | 4.79 | 380.53 | 79.44 | Underground cable failure | Replace feeder cable from substation to 12-LOK083 |
| | 4.11 | 2,667.71 | 649.08 | Underground cable and veg issues | Repair pole, add arresters, and add load cetner |
| | 3.34 | 734.91 | 220.03 | Connector failure and vegetation | Reconductor overhead facilities and upgrade poles |
| **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 o 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 | | 1.58 | 509.23 | 322.93 | 6 | 41 | 13,240 | 0 | 0 | 0 | 6 | 41 | 13,240 | 0 | 0 | 0 |
| 2 | | 1.02 | 504.83 | 492.86 | 3 | 253 | 124,693 | 0 | 0 | 0 | 3 | 253 | 124,693 | 0 | 0 | 0 |
| 3 | | 3.42 | 483.61 | 141.35 | 37 | 7,866 | 1,111,825 | 0 | 0 | 0 | 26 | 7,803 | 1,107,379 | 11 | 63 | 4,446 |
| 4 | | 4.18 | 459.23 | 109.88 | 16 | 2,867 | 315,031 | 0 | 0 | 0 | 12 | 2,502 | 222,298 | 4 | 365 | 92,733 |
| 5 | | 1.15 | 424.04 | 368.57 | 29 | 688 | 253,573 | 0 | 0 | 0 | 18 | 572 | 247,992 | 11 | 116 | 5,581 |
| 6 | | 2.71 | 388.30 | 143.34 | 31 | 4,058 | 581,668 | 0 | 0 | 0 | 27 | 3,986 | 577,193 | 4 | 72 | 4,475 |
| 7 | | 1.59 | 387.72 | 243.12 | 34 | 2,491 | 605,617 | 0 | 0 | 0 | 33 | 2,485 | 603,547 | 1 | 6 | 2,070 |
| 8 | | 2.75 | 364.92 | 132.49 | 59 | 3,407 | 451,408 | 0 | 0 | 0 | 46 | 3,322 | 440,591 | 13 | 85 | 10,817 |
| 9 | | 3.15 | 349.22 | 110.92 | 51 | 3,926 | 435,473 | 0 | 0 | 0 | 41 | 3,870 | 432,386 | 10 | 56 | 3,087 |
| 10 | | 2.01 | 316.27 | 157.51 | 58 | 763 | 120,184 | 1 | 379 | 58,745 | 14 | 248 | 33,920 | 44 | 515 | 86,264 |
| 11 | | 2.57 | 303.97 | 118.26 | 111 | 9,310 | 1,100,968 | 1 | 3,650 | 255,500 | 105 | 7,160 | 867,798 | 6 | 2,150 | 233,170 |
| 12 | | 3.88 | 288.17 | 74.28 | 18 | 1,804 | 134,000 | 0 | 0 | 0 | 15 | 1,784 | 133,332 | 3 | 20 | 668 |
| 13 | | 3.19 | 287.30 | 90.08 | 5 | 118 | 10,630 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 118 | 10,630 |
| 14 | | 2.08 | 280.62 | 135.05 | 25 | 2,589 | 349,647 | 0 | 0 | 0 | 20 | 2,558 | 345,456 | 5 | 31 | 4,191 |
| 15 | | 1.95 | 275.38 | 141.22 | 10 | 195 | 27,538 | 0 | 0 | 0 | 9 | 194 | 27,093 | 1 | 1 | 445 |
| 16 | | 2.11 | 274.95 | 130.24 | 8 | 361 | 47,017 | 0 | 0 | 0 | 8 | 361 | 47,017 | 0 | 0 | 0 |
| 17 | | 1.04 | 272.67 | 263.04 | 12 | 935 | 245,947 | 0 | 0 | 0 | 11 | 932 | 245,812 | 1 | 3 | 135 |
| 18 | | 1.84 | 266.48 | 144.87 | 18 | 2,086 | 302,191 | 0 | 0 | 0 | 16 | 2,055 | 300,376 | 2 | 31 | 1,815 |
| 19 | | 2.02 | 264.56 | 131.01 | 40 | 4,919 | 644,459 | 0 | 0 | 0 | 33 | 4,894 | 642,763 | 7 | 25 | 1,696 |
| 20 | | 2.38 | 258.22 | 108.61 | 15 | 699 | 75,916 | 1 | 293 | 22,854 | 13 | 690 | 73,300 | 2 | 9 | 2,616 |
| 21 | | 0.95 | 256.84 | 270.25 | 22 | 1,398 | 377,811 | 0 | 0 | 0 | 18 | 1,394 | 377,378 | 4 | 4 | 433 |
| 22 | | 2.63 | 256.68 | 97.48 | 51 | 5,490 | 535,187 | 0 | 0 | 0 | 38 | 5,152 | 471,435 | 13 | 338 | 63,752 |
| 23 | | 1.89 | 255.96 | 135.54 | 18 | 914 | 123,883 | 0 | 0 | 0 | 15 | 598 | 91,737 | 3 | 316 | 32,146 |
| 24 | | 0.71 | 255.00 | 357.00 | 1 | 15 | 5,355 | 0 | 0 | 0 | 1 | 15 | 5,355 | 0 | 0 | 0 |
| 25 | | 2.06 | 252.06 | 122.13 | 116 | 9,405 | 1,148,646 | 0 | 0 | 0 | 77 | 8,995 | 1,121,391 | 39 | 410 | 27,255 |

(1) Based on Jan 1-Dec 31, year-end storm normalized data
"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", Includes Bulk Power Supply outages
"Planned" includes all levels and only outages with a primary cause code of "Intentional", Includes Bulk Power Supply outages

**Metro West Poor Performing Feeders (2)**
Based on performance Sept 2012 to Aug 2013

| Feeder ID | SAIFI | SAIDI | CAIDI | Reasons for Poor Performance | Operational Changes Made, Considering or Planned |
|---|---|---|---|---|---|
| | 2.51 | 4,402.67 | 1,754.05 | Vegetation contact | Additional trimming in 2014 |
| | 2.54 | 784.47 | 308.85 | Vegetation and cable failure | Replace multiple spans of tap level cable |
| | 3.12 | 671.87 | 215.34 | Connector failure and vegetation | Reconductor multiple spans to remove auto splices |
| | 2.96 | 1,534.59 | 518.44 | Underground cable failure and storm | Replace headend feeder cable from sub to 1- |
| | 4.24 | 1,715.70 | 404.65 | Conductor contact | Reconductor 3000' to address brittle/sagging |
| **Security Data Ends]** | | | | | |

| | | | | | 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 | | 2.95 | 828.73 | 280.88 | 5 | 655 | 183,977 | 1 | 261 | 159,852 | 4 | 315 | 109,347 | 1 | 340 | 74,630 |
| 2 | | 1.96 | 713.17 | 364.00 | 12 | 1,587 | 577,668 | 2 | 863 | 542,964 | 10 | 515 | 333,252 | 2 | 1,072 | 244,416 |
| 3 | | 2.68 | 485.45 | 181.30 | 50 | 656 | 118,935 | 1 | 248 | 5,456 | 8 | 532 | 105,208 | 42 | 124 | 13,727 |
| 4 | | 2.94 | 409.01 | 139.17 | 16 | 2,889 | 402,061 | 1 | 982 | 142,390 | 14 | 2,878 | 400,666 | 2 | 11 | 1,395 |
| 5 | | 2.35 | 407.57 | 173.66 | 7 | 115 | 19,971 | 1 | 48 | 14,160 | 5 | 52 | 14,733 | 2 | 63 | 5,238 |
| 6 | | 1.41 | 388.86 | 275.41 | 8 | 970 | 267,148 | 0 | 0 | 0 | 7 | 955 | 263,398 | 1 | 15 | 3,750 |
| 7 | | 3.12 | 377.69 | 120.90 | 20 | 3,952 | 477,780 | 2 | 2,515 | 105,749 | 20 | 3,952 | 477,780 | 0 | 0 | 0 |
| 8 | | 2.32 | 352.65 | 151.92 | 17 | 448 | 68,062 | 1 | 193 | 7,334 | 17 | 448 | 68,062 | 0 | 0 | 0 |
| 9 | | 4.27 | 333.79 | 78.15 | 31 | 4,079 | 318,766 | 2 | 1,913 | 120,570 | 31 | 4,079 | 318,766 | 0 | 0 | 0 |
| 10 | | 3.86 | 329.67 | 85.50 | 19 | 7,523 | 643,190 | 0 | 0 | 0 | 18 | 7,515 | 642,150 | 1 | 8 | 1,040 |
| 11 | | 2.10 | 320.76 | 152.78 | 15 | 2,555 | 390,364 | 0 | 0 | 0 | 14 | 2,522 | 388,054 | 1 | 33 | 2,310 |
| 12 | | 4.05 | 283.87 | 70.06 | 17 | 3,063 | 214,602 | 2 | 1,506 | 18,825 | 16 | 2,397 | 144,241 | 1 | 666 | 70,361 |
| 13 | | 1.48 | 271.51 | 183.84 | 3 | 96 | 17,648 | 1 | 65 | 13,845 | 3 | 96 | 17,648 | 0 | 0 | 0 |
| 14 | | 1.28 | 209.00 | 162.72 | 29 | 989 | 160,927 | 0 | 0 | 0 | 26 | 584 | 156,866 | 3 | 405 | 4,061 |
| 15 | | 2.01 | 198.88 | 98.75 | 21 | 1,299 | 128,279 | 1 | 643 | 63,657 | 20 | 1,292 | 127,089 | 1 | 7 | 1,190 |
| 16 | | 1.10 | 194.99 | 177.12 | 4 | 371 | 65,712 | 0 | 0 | 0 | 2 | 47 | 4,404 | 2 | 324 | 61,308 |
| 17 | | 2.66 | 194.02 | 72.98 | 20 | 1,175 | 85,756 | 2 | 878 | 10,975 | 19 | 1,169 | 85,414 | 1 | 6 | 342 |
| 18 | | 2.23 | 182.93 | 82.09 | 18 | 1,210 | 99,334 | 0 | 0 | 0 | 16 | 724 | 78,610 | 2 | 486 | 20,724 |
| 19 | | 2.24 | 176.40 | 78.86 | 9 | 255 | 20,110 | 1 | 122 | 4,514 | 6 | 129 | 5,556 | 3 | 126 | 14,554 |
| 20 | | 1.29 | 169.29 | 131.62 | 42 | 4,399 | 578,988 | 0 | 0 | 0 | 37 | 4,244 | 570,186 | 5 | 155 | 8,802 |
| 21 | | 1.11 | 153.94 | 138.55 | 4 | 40 | 5,542 | 1 | 35 | 4,515 | 4 | 40 | 5,542 | 0 | 0 | 0 |
| 22 | | 2.00 | 146.00 | 73.00 | 2 | 38 | 2,774 | 2 | 38 | 2,774 | 2 | 38 | 2,774 | 0 | 0 | 0 |
| 23 | | 1.17 | 140.93 | 119.97 | 27 | 1,910 | 229,151 | 1 | 1,615 | 164,730 | 24 | 1,712 | 179,378 | 3 | 198 | 49,773 |
| 24 | | 2.08 | 134.98 | 65.01 | 6 | 1,277 | 83,015 | 2 | 1,229 | 58,914 | 6 | 1,277 | 83,015 | 0 | 0 | 0 |
| 25 | | 0.99 | 128.29 | 129.00 | 1 | 539 | 69,531 | 1 | 539 | 69,531 | 1 | 539 | 69,531 | 0 | 0 | 0 |

(1) Based on Jan 1-Dec 31, year-end storm normalized data
"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", Includes Bulk Power Supply outages
"Planned" includes all levels and only outages with a primary cause code of "Intentional", Includes Bulk Power Supply outages

**Northwest MN Poor Performing Feeders (2)**
Based on performance Sept 2012 to Aug 2013

| Feeder ID | SAIFI | SAIDI | CAIDI | Reasons for Poor Performance | Operational Changes Made, Considering or Planned |
|---|---|---|---|---|---|
| | 2.95 | 2,552.21 | 865.16 | Vegetation and cable failure | Rebuilt overhead and repaired cable |
| | 1.46 | 612.62 | 419.60 | Vegetation and pole fire | Rebuilt overhead and addressed pole issue |
| | 1.91 | 1,307.15 | 684.37 | Vegetation and connector failure | Rebuilt overhead and reconductored spans |
| | 1.94 | 926.68 | 477.67 | Vegetation during storm | Overhead rebuilt |
| | 0.89 | 2796.05 | 3141.63 | Vegetation during storm | Overhead rebuilt |
| **Security Data Ends]** | | | | | |

(2) Distribution outages only, storms are included

| | Southeast | | | | 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 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | **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 | | 2.72 | 3,418.28 | 1,254.62 | 3 | 455 | 570,853 | 0 | 0 | 0 | 3 | 455 | 570,853 | 0 | 0 | 0 |
| 2 | | 2.69 | 1,581.48 | 586.88 | 12 | 512 | 300,481 | 1 | 188 | 68,620 | 12 | 512 | 300,481 | 0 | 0 | 0 |
| 3 | | 4.08 | 1,158.19 | 283.64 | 9 | 686 | 194,576 | 1 | 166 | 60,590 | 9 | 686 | 194,576 | 0 | 0 | 0 |
| 4 | | 2.84 | 1,065.49 | 374.74 | 29 | 2,903 | 1,087,867 | 0 | 0 | 0 | 27 | 1,822 | 929,447 | 2 | 1,081 | 158,420 |
| 5 | | 2.20 | 1,029.80 | 468.66 | 31 | 1,804 | 845,466 | 0 | 0 | 0 | 30 | 1,712 | 832,402 | 1 | 92 | 13,064 |
| 6 | | 3.35 | 604.63 | 180.56 | 15 | 1,959 | 353,710 | 2 | 402 | 46,431 | 13 | 1,352 | 322,585 | 2 | 607 | 31,125 |
| 7 | | 1.39 | 495.52 | 356.69 | 13 | 464 | 165,505 | 0 | 0 | 0 | 12 | 130 | 45,933 | 1 | 334 | 119,572 |
| 8 | | 1.05 | 452.59 | 429.18 | 4 | 58 | 24,892 | 0 | 0 | 0 | 4 | 58 | 24,892 | 0 | 0 | 0 |
| 9 | | 1.93 | 420.47 | 218.14 | 24 | 1,650 | 359,925 | 1 | 855 | 117,990 | 23 | 1,649 | 359,907 | 1 | 1 | 18 |
| 10 | | 2.91 | 384.04 | 131.75 | 0 | 137 | 18,050 | 0 | 92 | 11,030 | 0 | 137 | 18,050 | 0 | 0 | 0 |
| 11 | | 0.88 | 361.02 | 411.00 | 13 | 549 | 225,638 | 0 | 0 | 0 | 13 | 549 | 225,638 | 0 | 0 | 0 |
| 12 | | 1.11 | 299.47 | 270.50 | 13 | 734 | 198,550 | 0 | 0 | 0 | 13 | 734 | 198,550 | 0 | 0 | 0 |
| 13 | | 2.14 | 294.01 | 137.15 | 9 | 358 | 49,100 | 1 | 168 | 10,080 | 7 | 356 | 48,975 | 2 | 2 | 125 |
| 14 | | 0.20 | 284.16 | 1,396.25 | 10 | 81 | 113,096 | 0 | 0 | 0 | 8 | 61 | 107,378 | 2 | 20 | 5,718 |
| 15 | | 0.94 | 280.23 | 299.06 | 17 | 878 | 262,579 | 0 | 0 | 0 | 15 | 845 | 260,719 | 2 | 33 | 1,860 |
| 16 | | 1.52 | 271.71 | 178.85 | 10 | 1,621 | 289,919 | 1 | 1,077 | 183,090 | 10 | 1,621 | 289,919 | 0 | 0 | 0 |
| 17 | | 1.79 | 253.80 | 141.85 | 35 | 3,142 | 445,680 | 1 | 1,752 | 231,264 | 33 | 2,873 | 400,830 | 2 | 269 | 44,850 |
| 18 | | 1.28 | 238.84 | 186.63 | 17 | 1,043 | 194,657 | 1 | 823 | 171,184 | 6 | 941 | 185,302 | 11 | 102 | 9,355 |
| 19 | | 1.00 | 230.53 | 229.52 | 2 | 229 | 52,561 | 1 | 228 | 52,440 | 2 | 229 | 52,561 | 0 | 0 | 0 |
| 20 | | 1.06 | 223.93 | 211.02 | 14 | 1,596 | 336,793 | 1 | 1,516 | 328,972 | 14 | 1,596 | 336,793 | 0 | 0 | 0 |
| 21 | | 1.96 | 219.59 | 112.09 | 18 | 954 | 106,938 | 1 | 496 | 25,792 | 10 | 898 | 101,399 | 8 | 56 | 5,539 |
| 22 | | 1.22 | 215.07 | 176.53 | 15 | 1,384 | 244,320 | 1 | 1,151 | 196,821 | 15 | 1,384 | 244,320 | 0 | 0 | 0 |
| 23 | | 4.04 | 206.58 | 51.17 | 12 | 3,698 | 189,227 | 1 | 916 | 34,808 | 8 | 3,673 | 185,418 | 4 | 25 | 3,809 |
| 24 | | 1.10 | 204.07 | 186.20 | 13 | 1,987 | 369,984 | 1 | 1,803 | 342,570 | 13 | 1,987 | 369,984 | 0 | 0 | 0 |
| 25 | | 1.09 | 192.71 | 177.31 | 15 | 1,189 | 210,822 | 1 | 1,098 | 187,758 | 14 | 1,167 | 207,082 | 1 | 22 | 3,740 |

(1) Based on Jan 1-Dec 31, year-end storm normalized data
"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", Includes Bulk Power Supply outages
"Planned" includes all levels and only outages with a primary cause code of "Intentional", Includes Bulk Power Supply outages

**Southeast MN Poor Performing Feeders (2)**
Based on performance Sept 2012 to Aug 2013

| Feeder ID | SAIFI | SAIDI | CAIDI | Reasons for Poor Performance | Operational Changes Made, Considering or Planned |
|---|---|---|---|---|---|
| | 3.53 | 403.99 | 114.44 | Vegetation and cable failure | Reconductor OH, add switches and fault indicators |
| | 3.80 | 957.91 | 252.08 | Vegetation and cable failure | Install additional fusing and replace cable |
| | | | | | |
| | | | | | |
| | | | | | |
| **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 | Total | Total Of All Readings | Percent Read by Utility (Company) |
|---|---|---|---|---|---|---|---|
| **JANUARY** | 1,683,321 | 167,666 | 9,674 | 4,788 | 1,865,449 | 1,879,001 | 99.28% |
| **FEBRUARY** | 1,489,233 | 151,645 | 9,067 | 4,426 | 1,654,371 | 1,665,981 | 99.30% |
| **MARCH** | 1,487,585 | 154,167 | 9,313 | 4,439 | 1,655,504 | 1,667,755 | 99.27% |
| **APRIL** | 1,632,407 | 166,110 | 9,892 | 4,871 | 1,813,280 | 1,825,503 | 99.33% |
| **MAY** | 1,563,972 | 155,587 | 9,226 | 4,522 | 1,733,307 | 1,749,121 | 99.10% |
| **JUNE** | 1,567,191 | 160,480 | 9,563 | 4,665 | 1,741,899 | 1,760,869 | 98.92% |
| **JULY** | 1,638,131 | 165,313 | 9,680 | 4,752 | 1,817,876 | 1,839,320 | 98.83% |
| **AUGUST** | 1,583,946 | 156,824 | 9,355 | 4,621 | 1,754,746 | 1,775,288 | 98.84% |
| **SEPTEMBER** | 1,569,269 | 160,800 | 9,511 | 4,662 | 1,744,242 | 1,760,551 | 99.07% |
| **OCTOBER** | 1,708,418 | 170,140 | 9,705 | 4,905 | 1,893,168 | 1,908,393 | 99.20% |
| **NOVEMBER** | 1,372,059 | 143,947 | 8,849 | 4,255 | 1,529,110 | 1,543,028 | 99.10% |
| **DECEMBER** | 1,494,394 | 152,133 | 8,850 | 4,361 | 1,659,738 | 1,673,375 | 99.19% |

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

| | Residential | Commercial | Industrial | Other | Total | Total Of All Readings | Percent Read by Customer |
|---|---|---|---|---|---|---|---|
| **JANUARY** | 23 | 3 | | | 26 | 1,879,001 | 0.00001% |
| **FEBRUARY** | 20 | 4 | | | 24 | 1,665,981 | 0.00001% |
| **MARCH** | 23 | 3 | | | 26 | 1,667,755 | 0.00001% |
| **APRIL** | 15 | 1 | | | 16 | 1,825,503 | 0.00001% |
| **MAY** | 18 | 4 | 2 | | 24 | 1,749,121 | 0.00001% |
| **JUNE** | 39 | 1 | | | 40 | 1,760,869 | 0.00002% |
| **JULY** | 41 | 1 | 1 | | 43 | 1,839,320 | 0.00002% |
| **AUGUST** | 30 | 1 | 1 | | 32 | 1,775,288 | 0.00001% |
| **SEPTEMBER** | 25 | 1 | | | 26 | 1,760,551 | 0.00001% |
| **OCTOBER** | 11 | 1 | 1 | | 13 | 1,908,393 | 0.00001% |
| **NOVEMBER** | 13 | 2 | | | 15 | 1,543,028 | 0.00001% |
| **DECEMBER** | 14 | 1 | | | 15 | 1,673,375 | 0.00001% |

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 READING RETURNED | 240 | 206 | 179 | 180 | 84 | 31 | 44 | 41 | 57 | 43 | 65 | 108 | 1278 | 49.15% |
| NO ANSWER | 32 | 31 | 36 | 22 | 42 | 48 | 26 | 24 | 21 | 25 | 23 | 18 | 348 | 13.38% |
| DOOR LOCKED | 28 | 20 | 24 | 23 | 27 | 20 | 19 | 13 | 12 | 11 | 15 | 8 | 220 | 8.46% |
| OC Meter Maint | 34 | 54 | 35 | 21 | 10 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 159 | 6.12% |
| METER OFF | 4 | 6 | 6 | 7 | 18 | 20 | 16 | 17 | 7 | 10 | 9 | 11 | 131 | 5.04% |
| VACANT | 8 | 6 | 5 | 12 | 5 | 9 | 4 | 7 | 10 | 4 | 3 | 6 | 79 | 3.04% |
| NEED KEY OR CODE | 20 | 4 | 3 | 1 | 6 | 11 | 2 | 1 | 1 | 1 | 2 | 15 | 67 | 2.58% |
| SERVICE CUT AT POLE | 8 | 8 | 8 | 3 | 6 | 4 | 3 | 3 | 3 | 9 | 4 | 7 | 66 | 2.54% |
| KEY NOT AVAILABLE | 7 | 0 | 1 | 2 | 4 | 11 | 4 | 8 | 3 | 3 | 5 | 2 | 50 | 1.92% |
| BAD KEY OR CODE | 2 | 4 | 8 | 2 | 3 | 2 | 3 | 4 | 2 | 4 | 5 | 6 | 45 | 1.73% |
| DEAD REGISTER | 5 | 5 | 3 | 1 | 6 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 30 | 1.15% |
| GATE PROBLEM | 7 | 3 | 2 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 2 | 24 | 0.92% |
| CUSTOMER READING | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 4 | 1 | 17 | 0.65% |
| CUST REQUESTS SKIP | 0 | 0 | 0 | 0 | 0 | 4 | 2 | 2 | 1 | 3 | 0 | 1 | 13 | 0.50% |
| DOG | 1 | 2 | 0 | 2 | 1 | 1 | 0 | 0 | 2 | 2 | 1 | 0 | 12 | 0.46% |
| METER REMOVED | 3 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 11 | 0.42% |
| SEASONAL | 1 | 2 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 10 | 0.38% |
| METER BLOCKED | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 2 | 9 | 0.35% |
| UNSAFE CONDITION | 3 | 0 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 9 | 0.35% |
| BAD ROAD | 1 | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0.19% |
| HANDHELD ESTIMATE | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 5 | 0.19% |
| REFUSED ADMITTANCE | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 3 | 0.12% |
| METER WILL NOT PROBE | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0.08% |
| SNOW/MUD | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0.08% |
| EMED Data Corrupt | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0.04% |
| EMED Meter Maint | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.04% |
| LEFT CARD | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0.04% |
| OC CellNet New: no premise ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0.04% |
| SPS DEAD REGISTER | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0.04% |
| TOTAL | 406 | 356 | 321 | 284 | 221 | 169 | 129 | 127 | 124 | 125 | 145 | 193 | 2600 | 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 | 45 | 44 | 45 | 51 | 22 | 13 | 27 | 6 | 12 | 18 | 18 | 30 | 331 | 40.27% |
| METER OFF | 4 | 7 | 5 | 8 | 11 | 12 | 9 | 8 | 7 | 5 | 8 | 11 | 95 | 11.56% |
| VACANT | 7 | 3 | 4 | 6 | 5 | 6 | 1 | 7 | 5 | 8 | 5 | 7 | 64 | 7.79% |
| NO ANSWER | 8 | 3 | 3 | 0 | 9 | 13 | 4 | 5 | 0 | 3 | 3 | 2 | 53 | 6.45% |
| SEASONAL | 1 | 4 | 2 | 3 | 1 | 4 | 4 | 4 | 3 | 3 | 3 | 5 | 37 | 4.50% |
| DOOR LOCKED | 6 | 4 | 2 | 8 | 4 | 5 | 3 | 1 | 0 | 2 | 0 | 1 | 36 | 4.38% |
| SERVICE CUT AT POLE | 1 | 3 | 1 | 3 | 6 | 3 | 1 | 3 | 5 | 4 | 2 | 2 | 34 | 4.14% |
| DEAD REGISTER | 4 | 3 | 4 | 1 | 4 | 1 | 4 | 1 | 0 | 1 | 2 | 6 | 31 | 3.77% |
| BAD KEY OR CODE | 0 | 2 | 2 | 1 | 3 | 4 | 0 | 1 | 1 | 1 | 0 | 2 | 17 | 2.07% |
| GATE PROBLEM | 1 | 1 | 2 | 1 | 2 | 2 | 2 | 1 | 0 | 0 | 2 | 1 | 15 | 1.82% |
| OC Meter Maint | 2 | 5 | 4 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 15 | 1.82% |
| METER REMOVED | 3 | 0 | 0 | 2 | 3 | 2 | 0 | 0 | 0 | 1 | 2 | 1 | 14 | 1.70% |
| CANNOT LOCATE | 2 | 0 | 0 | 0 | 4 | 1 | 0 | 1 | 0 | 1 | 0 | 3 | 12 | 1.46% |
| NEED KEY OR CODE | 1 | 2 | 1 | 2 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 10 | 1.22% |
| UNSAFE CONDITION | 1 | 1 | 1 | 2 | 1 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 9 | 1.09% |
| HANDHELD ESTIMATE | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 8 | 0.97% |
| KEY NOT AVAILABLE | 2 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 2 | 0 | 1 | 8 | 0.97% |
| CUST REQUESTS SKIP | 1 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 7 | 0.85% |
| CUSTOMER READING | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 5 | 0.61% |
| METER WILL NOT PROBE | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 4 | 0.49% |
| BAD ROAD | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0.36% |
| METER BLOCKED | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0.36% |
| ABS Data Corrupt - MCC | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0.24% |
| ABS MCC Calc Reading | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0.24% |
| REFUSED ADMITTANCE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 0.24% |
| WRONG ROUTE | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0.24% |
| ABS Stale Reads - MCC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0.12% |
| Bad Ert | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0.12% |
| SNOW/MUD | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.12% |
| TOTAL | 92 | 87 | 80 | 92 | 84 | 74 | 61 | 43 | 37 | 51 | 48 | 73 | 822 | 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** | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NO READING RETURNED | 9 | 10 | 12 | 10 | 11 | 11 | 14 | 10 | 12 | 3 | 4 | 7 | 113 | 63.84% |
| SEASONAL | 3 | 3 | 0 | 4 | 3 | 3 | 0 | 3 | 0 | 4 | 1 | 3 | 27 | 15.25% |
| METER OFF | 0 | 1 | 1 | 1 | 3 | 3 | 1 | 1 | 0 | 1 | 1 | 1 | 14 | 7.91% |
| METER WILL NOT PROBE | 3 | 2 | 2 | 2 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 12 | 6.78% |
| METER REMOVED | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 4 | 2.26% |
| VACANT | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 2.26% |
| DEAD REGISTER | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1.13% |
| NO ANSWER | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.56% |
| TOTAL | 16 | 17 | 16 | 19 | 20 | 19 | 17 | 15 | 12 | 9 | 6 | 11 | 177 | 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 | 5 | 5 | 4 | 6 | 5 | 6 | 6 | 5 | 6 | 5 | 5 | 6 | 64 | 81.01% |
| CUST REQUESTS SKIP | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 7 | 8.86% |
| CUSTOMER READING | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 5 | 6.33% |
| METER REMOVED | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 2.53% |
| WRONG ROUTE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1.27% |
| TOTAL | 6 | 6 | 5 | 7 | 6 | 8 | 7 | 7 | 7 | 6 | 7 | 7 | 79 | 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 READING RETURNED | 30 | 23 | 21 | 26 | 18 | 6 | 12 | 11 | 22 | 10 | 12 | 15 | 206 | 34.22% |
| DOOR LOCKED | 14 | 11 | 11 | 11 | 14 | 11 | 15 | 13 | 5 | 1 | 3 | 0 | 109 | 18.11% |
| NO ANSWER | 6 | 5 | 7 | 7 | 17 | 21 | 9 | 11 | 6 | 8 | 5 | 2 | 104 | 17.28% |
| VACANT | 4 | 3 | 3 | 5 | 4 | 6 | 4 | 5 | 6 | 4 | 1 | 1 | 46 | 7.64% |
| OC Meter Maint | 4 | 5 | 7 | 10 | 3 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 31 | 5.15% |
| METER OFF | 1 | 3 | 2 | 1 | 3 | 3 | 2 | 2 | 3 | 5 | 3 | 2 | 30 | 4.98% |
| SERVICE CUT AT POLE | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 6 | 1 | 2 | 14 | 2.33% |
| CUSTOMER READING | 0 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 13 | 2.16% |
| KEY NOT AVAILABLE | 1 | 0 | 0 | 1 | 0 | 6 | 1 | 1 | 0 | 0 | 1 | 0 | 11 | 1.83% |
| CUST REQUESTS SKIP | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 1 | 2 | 0 | 1 | 9 | 1.50% |
| NEED KEY OR CODE | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 1 | 1 | 0 | 0 | 6 | 1% |
| DEAD REGISTER | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 4 | 0.66% |
| SEASONAL | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0.66% |
| BAD ROAD | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0.50% |
| GATE PROBLEM | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0.50% |
| METER BLOCKED | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0.50% |
| BAD KEY OR CODE | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0.33% |
| UNSAFE CONDITION | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0.33% |
| OC CellNet New: no premise ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0.17% |
| REFUSED ADMITTANCE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0.17% |
| TOTAL | 64 | 56 | 58 | 64 | 65 | 59 | 51 | 46 | 45 | 40 | 29 | 25 | 602 | 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** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NO READING RETURNED | 16 | 15 | 12 | 20 | 12 | 9 | 17 | 4 | 7 | 8 | 4 | 5 | 129 | 38.51% |
| VACANT | 3 | 3 | 3 | 5 | 4 | 4 | 0 | 6 | 5 | 6 | 5 | 5 | 49 | 14.63% |
| METER OFF | 2 | 4 | 3 | 3 | 2 | 4 | 5 | 4 | 5 | 1 | 4 | 3 | 40 | 11.94% |
| SEASONAL | 1 | 3 | 2 | 1 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 3 | 20 | 5.97% |
| DOOR LOCKED | 3 | 2 | 1 | 2 | 3 | 2 | 2 | 1 | 0 | 0 | 0 | 1 | 17 | 5.07% |
| SERVICE CUT AT POLE | 1 | 0 | 0 | 1 | 1 | 2 | 1 | 2 | 2 | 3 | 2 | 2 | 17 | 5.07% |
| NO ANSWER | 1 | 0 | 0 | 0 | 0 | 5 | 2 | 2 | 0 | 1 | 0 | 1 | 12 | 3.58% |
| DEAD REGISTER | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 8 | 2.39% |
| UNSAFE CONDITION | 1 | 1 | 1 | 2 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 8 | 2.39% |
| GATE PROBLEM | 0 | 0 | 1 | 1 | 2 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 7 | 2.09% |
| CUST REQUESTS SKIP | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 4 | 1.19% |
| KEY NOT AVAILABLE | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 4 | 1.19% |
| OC Meter Maint | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 1.19% |
| BAD KEY OR CODE | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 3 | 0.90% |
| CANNOT LOCATE | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0.90% |
| CUSTOMER READING | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 3 | 0.90% |
| HANDHELD ESTIMATE | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0.90% |
| NEED KEY OR CODE | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0.60% |
| BAD ROAD | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.30% |
| METER BLOCKED | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.30% |
| TOTAL | 31 | 34 | 30 | 37 | 30 | 32 | 32 | 24 | 22 | 23 | 19 | 21 | 335 | 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 | 9 | 9 | 12 | 9 | 9 | 9 | 12 | 9 | 10 | 3 | 4 | 5 | 100 | 76.34% |
| SEASONAL | 3 | 3 | 0 | 3 | 3 | 3 | 0 | 3 | 0 | 4 | 1 | 3 | 26 | 19.85% |
| METER OFF | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 2.29% |
| VACANT | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1.53% |
| TOTAL | 12 | 12 | 13 | 13 | 12 | 12 | 12 | 12 | 10 | 8 | 6 | 9 | 131 | 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 | 5 | 5 | 4 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 52 | 81.25% |
| CUST REQUESTS SKIP | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 7 | 10.94% |
| CUSTOMER READING | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 5 | 7.81% |
| TOTAL | 6 | 6 | 5 | 6 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 64 | 100% |

D. Total number of meters installed by month.

| | **Residential** | **Commercial** | **Industrial** | **Other** | **Total** |
|---|---|---|---|---|---|
| **JANUARY** | 1,528,884 | 157,175 | 9,799 | 4,984 | 1,700,842 |
| **FEBRUARY** | 1,529,286 | 157,205 | 9,793 | 4,982 | 1,701,266 |
| **MARCH** | 1,529,656 | 157,232 | 9,788 | 4,977 | 1,701,653 |
| **APRIL** | 1,530,389 | 157,213 | 9,780 | 4,977 | 1,702,359 |
| **MAY** | 1,531,249 | 157,265 | 9,769 | 4,972 | 1,703,255 |
| **JUNE** | 1,532,153 | 157,305 | 9,758 | 4,972 | 1,704,188 |
| **JULY** | 1,533,505 | 157,359 | 9,744 | 4,972 | 1,705,580 |
| **AUGUST** | 1,534,955 | 157,459 | 9,739 | 4,971 | 1,707,124 |
| **SEPTEMBER** | 1,535,988 | 157,612 | 9,731 | 4,966 | 1,708,297 |
| **OCTOBER** | 1,537,717 | 157,837 | 9,719 | 4,969 | 1,710,242 |
| **NOVEMBER** | 1,539,086 | 158,063 | 9,690 | 4,971 | 1,711,810 |
| **DECEMBER** | 1,540,064 | 158,264 | 9,680 | 4,972 | 1,712,980 |

*R=Residential*

*C=Commercial*

| | Jan-13 | | Feb-13 | | Mar-13 | | Apr-13 | | May-13 | | Jun-13 | | Jul-13 | | Aug-13 | | Sep-13 | | Oct-13 | | Nov-13 | | Dec-13 | | Total 2013 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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]** | 98,128 | 4,702 | 96,137 | 2,039 | 106,092 | 10,264 | 105,733 | 1,078 | 99,860 | 4,358 | 91,796 | 9,655 | 96,863 | 390 | 114,264 | 9,427 | 104,816 | 1,529 | 121,924 | 5,849 | 90,722 | 9,054 | 90,714 | 824 | 1,217,049 | 59,169 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Number of customers who sought cold weather rule protection [1, 2]** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Sought** | 14,349 | 0 | 12,870 | 0 | 15,802 | 0 | 35,067 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18,561 | 0 | 18,014 | 0 | 11,814 | 0 | 126,477 | 0 |
| **Granted** | 14,349 | 0 | 12,870 | 0 | 15,802 | 0 | 35,067 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18,561 | 0 | 18,014 | 0 | 11,814 | 0 | 126,477 | 0 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Number of customers locked for nonpayment** | 1,020 | 36 | 1,070 | 47 | 1,079 | 37 | 1,753 | 86 | 4,411 | 105 | 3,031 | 51 | 3,299 | 97 | 2,601 | 52 | 2,810 | 62 | 1,048 | 58 | 697 | 30 | 674 | 15 | 23,493 | 676 |
| **Number of total customers restored to service within 24 hours** | 592 | 8 | 583 | 10 | 631 | 11 | 802 | 11 | 1,384 | 11 | 985 | 3 | 1,078 | 8 | 905 | 7 | 1,038 | 11 | 489 | 11 | 358 | 6 | 376 | 2 | 9,221 | 99 |
| **Number of customers restored to service with pay arrangements** | 29 | 0 | 24 | 0 | 44 | 0 | 90 | 0 | 204 | 0 | 91 | 0 | 126 | 0 | 59 | 0 | 88 | 0 | 52 | 0 | 38 | 0 | 37 | 0 | 882 | 0 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Number of customers requesting emergency medical account status** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Requested** | 74 | 0 | 94 | 0 | 114 | 0 | 143 | 0 | 132 | 0 | 112 | 0 | 182 | 0 | 142 | 0 | 177 | 0 | 201 | 0 | 119 | 0 | 72 | 0 | 1,562 | |
| **Denied [3]** | 19 | 0 | 36 | 0 | 57 | 0 | 63 | 0 | 73 | 0 | 51 | 0 | 70 | 0 | 67 | 0 | 92 | 0 | 117 | 0 | 60 | 0 | 25 | 0 | 730 | |

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-13 | Feb-13 | Mar-13 | Apr-13 | May-13 | Jun-13 | Jul-13 | Aug-13 | Sep-13 | Oct-13 | Nov-13 | Dec-13 | **Total 2013** |
| # Service Installations | 119 | 125 | 153 | 154 | 224 | 233 | 395 | 418 | 365 | 406 | 324 | 119 | **3035** |
| Avg days to complete from customer and site ready | 0 | 2 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 2 | 4 | 6 | **2** |
| | | | | | | | | | | | | | |
| ***Commercial*** | | | | | | | | | | | | | |
| | Jan-13 | Feb-13 | Mar-13 | Apr-13 | May-13 | Jun-13 | Jul-13 | Aug-13 | Sep-13 | Oct-13 | Nov-13 | Dec-13 | **Total 2013** |
| # Service Installations | 5 | 8 | 15 | 9 | 19 | 16 | 36 | 41 | 26 | 42 | 50 | 27 | **294** |
| Avg days to complete from customer and site ready | 7 | 19 | 6 | 13 | 4 | 14 | 19 | 7 | 7 | 17 | 14 | 6 | **11** |

**Xcel Energy**
**Service Quality Report 2013**
**Minn. R. 7826.1700 - Call Center Response Time**
**Minnesota Service Level**



| | | January | February | March | April | May | June | July | August | September | October | November | December | 2013 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | All **Residential** Calls offered to Agents | 95,813 | 90,558 | 90,585 | 111,276 | 128,837 | 175,527 | 145,716 | 143,989 | 126,119 | 122,944 | 102,506 | 105,798 | 1,439,668 |
| 2 | All **BSC** Calls Offered to Agents | 4,012 | 3,367 | 3,529 | 3,774 | 3,773 | 3,488 | 4,109 | 4,035 | 4,069 | 4,582 | 3,653 | 3,735 | 46,126 |
| 3 | All **Credit** Calls Offered to Agents | 21,024 | 19,940 | 24,809 | 40,728 | 33,567 | 27,971 | 32,191 | 36,893 | 38,344 | 32,430 | 22,265 | 15,788 | 345,950 |
| 4 | All **PAR** Calls Offered to Agents | 6,285 | 4,882 | 4,881 | 8,519 | 9,262 | 7,083 | 6,449 | 6,017 | 6,336 | 5,915 | 3,751 | 3,575 | 72,955 |
| 5 | All Calls Offered to Agents | 127,134 | 118,747 | 123,804 | 164,297 | 175,439 | 214,069 | 188,465 | 190,934 | 174,868 | 165,871 | 132,175 | 128,896 | 1,904,699 |
| 6 | All Calls Excluding Credit and PAR | 99,825 | 93,925 | 94,114 | 115,050 | 132,610 | 179,015 | 149,825 | 148,024 | 130,188 | 127,526 | 106,159 | 109,533 | 1,485,794 |
| | | | | | | | | | | | | | | |
| 7 | All **Residential** Calls Answered by Agents within 20 seconds | 76,842 | 72,431 | 75,279 | 95,162 | 102,177 | 119,794 | 89,053 | 94,123 | 117,983 | 102,984 | 87,558 | 82,352 | 1,115,738 |
| 8 | All **BSC** Calls Answered by Agents within 20 seconds | 2,561 | 2,264 | 2,554 | 3,040 | 2,892 | 2,331 | 2,429 | 2,592 | 3,052 | 3,101 | 2,868 | 2,883 | 32,567 |
| 9 | All **Credit** Calls Answered by Agents within 20 seconds | 14,902 | 13,007 | 15,965 | 25,180 | 21,940 | 17,201 | 18,509 | 17,613 | 33,635 | 24,371 | 16,151 | 12,752 | 231,226 |
| 10 | All **PAR** Calls Answered by Agents within 20 seconds | 5,813 | 4,325 | 4,295 | 5,978 | 7,419 | 5,745 | 5,389 | 4,842 | 4,835 | 4,574 | 3,149 | 3,124 | 59,488 |
| 11 | All Calls Answered by Agents within 20 seconds | 100,118 | 92,027 | 98,093 | 129,360 | 134,428 | 145,071 | 115,380 | 119,170 | 159,505 | 135,030 | 109,726 | 101,111 | 1,439,019 |
| 12 | All Calls Answered by Agents within 20 seconds Excluding Credit and PAR | 79,403 | 74,695 | 77,833 | 98,202 | 105,069 | 122,125 | 91,482 | 96,715 | 121,035 | 106,085 | 90,426 | 85,235 | 1,148,305 |
| | | | | | | | | | | | | | | |
| 13 | Non-Billing and Outage Calls Completed in IVR | 11,487 | 10,613 | 12,176 | 16,533 | 12,827 | 75,284 | 14,351 | 17,918 | 14,672 | 17,681 | 15,303 | 14,163 | 233,008 |
| | | | | | | | | | | | | | | |
| 14 | Billing Calls Handled by IVR | 123,467 | 117,163 | 133,281 | 134,248 | 130,499 | 123,402 | 138,466 | 140,123 | 137,801 | 142,261 | 126,710 | 124,551 | 1,571,972 |
| | | | | | | | | | | | | | | |
| 15 | Outage Calls Handled by IVR | 14,469 | 13,567 | 14,107 | 20,621 | 32,446 | 234,717 | 47,982 | 63,522 | 31,824 | 21,869 | 16,902 | 20,370 | 532,396 |
| 16 | Outage Calls Offered to Agents | 25,067 | 21,005 | 21,906 | 35,779 | 36,284 | 86,155 | 38,240 | 41,122 | 37,236 | 30,828 | 23,772 | 38,449 | 435,843 |
| 17 | Total Outage Calls | 39,536 | 34,572 | 36,013 | 56,400 | 68,730 | 320,872 | 86,222 | 104,644 | 69,060 | 52,697 | 40,674 | 58,819 | 968,239 |
| | | | | | | | | | | | | | | |
| 18 | All Calls Offered to Agents + Outage Calls Handled by IVR | 141,603 | 132,314 | 137,911 | 184,918 | 207,885 | 448,786 | 236,447 | 254,456 | 206,692 | 187,740 | 149,077 | 149,266 | 2,437,095 |
| 19 | All Calls Answered by Agents within 20 seconds + Outage Calls Handled by IVR | 114,587 | 105,594 | 112,200 | 149,981 | 166,874 | 379,788 | 163,362 | 182,692 | 191,329 | 156,899 | 126,628 | 121,481 | 1,971,415 |
| | | | | | | | | | | | | | | |
| 20 | Res and BSC Calls Offered to Agents + Outage Calls Handled by IVR | 114,294 | 107,492 | 108,221 | 135,671 | 165,056 | 413,732 | 197,807 | 211,546 | 162,012 | 149,395 | 123,061 | 129,903 | 2,018,190 |
| 21 | Res and BSC Calls Answered by Agents within 20 seconds + Outage Calls Handled by IVR | 93,872 | 88,262 | 91,940 | 118,823 | 137,515 | 356,842 | 139,464 | 160,237 | 152,859 | 127,954 | 107,328 | 105,605 | 1,680,701 |
| | | | | | | | | | | | | | | |
| 22 | All Calls Offered to Agents + Outage Calls Handled by IVR + Billing Calls Handled by IVR | 265,070 | 249,477 | 271,192 | 319,166 | 338,384 | 572,188 | 374,913 | 394,579 | 344,493 | 330,001 | 275,787 | 273,817 | 4,009,067 |
| 23 | All Calls Answered by Agents within 20 seconds + Outage Calls Handled by IVR + Billing Calls Handled by IVR | 238,054 | 222,757 | 245,481 | 284,229 | 297,373 | 503,190 | 301,828 | 322,815 | 329,130 | 299,160 | 253,338 | 246,032 | 3,543,387 |

**Xcel Energy**
**Service Quality Report 2013**
**Minn. R. 7826.1700 - Call Center Response Time**
**Minnesota Service Level**



| | | January | February | March | April | May | June | July | August | September | October | November | December | 2013 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | Res and BSC Calls Offered to Agents + Outage Calls Handled by IVR + Billing Calls Handled by IVR | 237,761 | 224,655 | 241,502 | 269,919 | 295,555 | 537,134 | 336,273 | 351,669 | 299,813 | 291,656 | 249,771 | 254,454 | 3,590,162 |
| 25 | Res and BSC Calls Answered by Agents within 20 seconds + Outage Calls Handled by IVR + Billing Calls Handled by IVR | 217,339 | 205,425 | 225,221 | 253,071 | 268,014 | 480,244 | 277,930 | 300,360 | 290,660 | 270,215 | 234,038 | 230,156 | 3,252,673 |
| 26 | Service Level All Calls (including calls handled by IVR) | **90.2%** | **89.7%** | **90.9%** | **89.6%** | **88.3%** | **89.3%** | **81.2%** | **82.6%** | **95.7%** | **91.1%** | **92.3%** | **90.4%** | **89.0%** |
| 27 | Service Level All Calls (not including billing calls handled by IVR) | **80.9%** | **79.8%** | **81.4%** | **81.1%** | **80.3%** | **84.6%** | **69.1%** | **71.8%** | **92.6%** | **83.6%** | **84.9%** | **81.4%** | **80.9%** |
| 28 | Service Level Res and BSC Calls (including outage and billing calls handled by IVR) | **91.4%** | **91.4%** | **93.3%** | **93.8%** | **90.7%** | **89.4%** | **82.7%** | **85.4%** | **96.9%** | **92.6%** | **93.7%** | **90.5%** | **90.6%** |
| 29 | Service Level Res and BSC Calls (not including billing calls handled by IVR) | **82.1%** | **82.1%** | **85.0%** | **87.6%** | **83.3%** | **86.2%** | **70.5%** | **75.7%** | **94.4%** | **85.6%** | **87.2%** | **81.3%** | **83.3%** |
| 30 | Service Level (agent only) | **78.7%** | **77.5%** | **79.2%** | **78.7%** | **76.6%** | **67.8%** | **61.2%** | **62.4%** | **91.2%** | **81.4%** | **83.0%** | **78.4%** | **75.6%** |
| 31 | ASA (Agent only Residential, BSC, Credit and PAR) | 17 | 20 | 18 | 30 | 19 | 52 | 41 | 42 | 7 | 13 | 14 | 18 | 26 |
| | ASA Residential | 15 | 17 | 14 | 13 | 16 | 56 | 39 | 37 | 6 | 10 | 12 | 19 | 23 |
| | ASA BSC | 41 | 36 | 30 | 18 | 24 | 35 | 48 | 44 | 20 | 34 | 22 | 21 | 31 |
| | ASA Credit | 25 | 34 | 33 | 76 | 32 | 36 | 53 | 68 | 8 | 19 | 24 | 13 | 37 |
| | ASA PAR | 7 | 10 | 10 | 34 | 19 | 17 | 14 | 17 | 24 | 22 | 12 | 12 | 17 |

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) / (All Calls Offered to Agents + Outage Calls Handled by IVR + Billing 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, 2013 to December 31, 2013

**Name of Utility:** Northern States Power Company
**Address:** 3115 Centre Pointe Drive, Roseville, MN 55113
**Prepared by:** Jeff Eden, Customer Advocate Analyst. Customer Care (303) 294-2214

**A. The Number of Complaints Received**

| | | Month | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CustomerType | Source | Jan-13 | Feb-13 | Mar-13 | Apr-13 | May-13 | Jun-13 | Jul-13 | Aug-13 | Sep-13 | Oct-13 | Nov-13 | Dec-13 | 2013 |
| Commercial | Commission | 1 | 0 | 0 | 1 | 1 | 3 | 0 | 0 | 2 | 1 | 1 | 0 | 10 |
| | Direct Customer Contact | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| | Informational | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | Internal | 1 | 4 | 3 | 1 | 1 | 3 | 1 | 0 | 3 | 0 | 1 | 0 | 18 |
| | OAG | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 5 |
| | Officer | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 5 |
| Commercial Total | | 2 | 5 | 5 | 4 | 2 | 7 | 3 | 0 | 6 | 2 | 4 | 1 | 41 |
| Industrial | Internal | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 4 |
| | Referral | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| Industrial Total | | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 5 |
| Residential | BBB | 1 | 2 | 0 | 2 | 3 | 2 | 5 | 6 | 2 | 3 | 3 | 1 | 30 |
| | Commission | 2 | 4 | 3 | 11 | 8 | 4 | 13 | 8 | 9 | 4 | 4 | 7 | 77 |
| | Commission/BBB | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| | Commission/OAG | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| | Direct Customer Contact | 0 | 1 | 0 | 3 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 6 |
| | Informational | 2 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 9 |
| | Internal | 10 | 15 | 13 | 33 | 19 | 22 | 24 | 24 | 28 | 20 | 13 | 11 | 232 |
| | OAG | 8 | 9 | 6 | 24 | 23 | 23 | 28 | 36 | 41 | 22 | 5 | 6 | 231 |
| | Officer | 0 | 1 | 3 | 2 | 2 | 5 | 5 | 1 | 3 | 7 | 3 | 0 | 32 |
| | Referral | 2 | 2 | 3 | 7 | 9 | 9 | 11 | 13 | 6 | 2 | 0 | 8 | 72 |
| | Repeat Customer | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| | OAG/Officer | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| | Commission/Internal | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| Residential Total | | 25 | 34 | 32 | 85 | 66 | 66 | 88 | 88 | 91 | 59 | 30 | 34 | 698 |
| | Commission | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Government Total | | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| **Grand Total** | | **28** | **39** | **37** | **90** | **68** | **75** | **91** | **89** | **97** | **62** | **34** | **35** | **745** |

***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, 2013 to December 31, 2013

**Name of Utility:** Northern States Power Company
**Address:** 3115 Centre Pointe Drive, Roseville, MN 55113
**Prepared by:** Jeff Eden, Customer Advocate Analyst. Customer Care (303) 294-2214

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

| | | **Month** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CustomerType | MPUC | Jan-13 | Feb-13 | Mar-13 | Apr-13 | May-13 | Jun-13 | Jul-13 | Aug-13 | Sep-13 | Oct-13 | Nov-13 | Dec-13 | 2013 |
| Commercial | Billing Error | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 6 |
| | High Bill | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 4 |
| | Inadequate Service | 0 | 4 | 4 | 2 | 2 | 4 | 2 | 0 | 3 | 1 | 1 | 0 | 23 |
| | Serv Rest Interval | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 4 |
| | Service Ext Interval | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 |
| | Wrongful Disconnect | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 |
| Commercial Total | | 2 | 5 | 5 | 4 | 2 | 7 | 3 | 0 | 6 | 2 | 4 | 1 | 41 |
| Industrial | High Bill | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| | Inadequate Service | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| | Inaccurate Metering | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Industrial Total | | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 5 |
| Residential | Billing Error | 5 | 7 | 10 | 8 | 7 | 9 | 9 | 12 | 11 | 7 | 5 | 7 | 97 |
| | High Bill | 0 | 4 | 3 | 3 | 1 | 4 | 7 | 2 | 1 | 1 | 1 | 0 | 27 |
| | Inadequate Service | 18 | 13 | 15 | 55 | 34 | 31 | 41 | 58 | 54 | 35 | 16 | 19 | 389 |
| | Inaccurate Metering | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 2 | 1 | 1 | 1 | 1 | 10 |
| | Serv Rest Interval | 0 | 1 | 0 | 0 | 1 | 5 | 4 | 4 | 2 | 4 | 1 | 0 | 22 |
| | Service Ext Interval | 0 | 0 | 1 | 2 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 8 |
| | Wrongful Disconnect | 1 | 5 | 2 | 12 | 20 | 14 | 23 | 7 | 16 | 9 | 2 | 3 | 114 |
| | Inaccurate | 1 | 4 | 1 | 4 | 1 | 2 | 0 | 3 | 6 | 2 | 4 | 3 | 31 |
| Residential Total | | 25 | 34 | 32 | 85 | 66 | 66 | 88 | 88 | 91 | 59 | 30 | 34 | 698 |
| Government | Inadequate Service | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Government Total | | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Totals | Billing Error | 5 | 7 | 10 | 10 | 7 | 9 | 9 | 12 | 13 | 8 | 5 | 8 | 103 |
| | High Bill | 0 | 5 | 3 | 3 | 1 | 6 | 7 | 2 | 1 | 2 | 2 | 0 | 32 |
| | Inadequate Service | 18 | 17 | 19 | 58 | 36 | 37 | 43 | 59 | 57 | 36 | 17 | 19 | 416 |
| | Inaccurate Metering | 1 | 0 | 0 | 1 | 1 | 0 | 2 | 2 | 1 | 1 | 1 | 1 | 11 |
| | Serv Rest Interval | 1 | 1 | 0 | 0 | 1 | 6 | 5 | 4 | 2 | 4 | 2 | 0 | 26 |
| | Service Ext Interval | 0 | 0 | 2 | 2 | 1 | 1 | 2 | 0 | 1 | 0 | 0 | 1 | 10 |
| | Wrongful Disconnect | 2 | 5 | 2 | 12 | 20 | 14 | 23 | 7 | 16 | 9 | 3 | 3 | 116 |
| | Inaccurate | 1 | 4 | 1 | 4 | 1 | 2 | 0 | 3 | 6 | 2 | 4 | 3 | 31 |
| **Grand Total** | | **28** | **39** | **37** | **90** | **68** | **75** | **91** | **89** | **97** | **62** | **34** | **35** | **745** |

| | | **Percentage** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CustomerType | Complaint Type | Jan-13 | Feb-13 | Mar-13 | Apr-13 | May-13 | Jun-13 | Jul-13 | Aug-13 | Sep-13 | Oct-13 | Nov-13 | Dec-13 | 2013 |
| Commercial | Billing Error | 0.0% | 0.0% | 0.0% | 50.0% | 0.0% | 0.0% | 0.0% | 0.0% | 33.3% | 50.0% | 0.0% | 100.0% | 14.6% |
| | High Bill | 0.0% | 20.0% | 0.0% | 0.0% | 0.0% | 28.6% | 0.0% | 0.0% | 0.0% | 0.0% | 25.0% | 0.0% | 9.8% |
| | Inadequate Service | 0.0% | 80.0% | 80.0% | 50.0% | 100.0% | 57.1% | 66.7% | 0.0% | 50.0% | 50.0% | 25.0% | 0.0% | 56.1% |
| | Serv Rest Interval | 50.0% | 0.0% | 0.0% | 0.0% | 0.0% | 14.3% | 33.3% | 0.0% | 0.0% | 0.0% | 25.0% | 0.0% | 9.8% |
| | Service Ext Interval | 0.0% | 0.0% | 20.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 16.7% | 0.0% | 0.0% | 0.0% | 4.9% |
| | Wrongful Disconnect | 50.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 25.0% | 0.0% | 4.9% |
| Industrial | High Bill | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | 20.0% |
| | | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 60.0% |
| | | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 20.0% |
| Residential | Billing Error | 20.0% | 20.6% | 31.3% | 9.4% | 10.6% | 13.6% | 10.2% | 13.6% | 12.1% | 11.9% | 16.7% | 20.6% | 13.9% |
| | High Bill | 0.0% | 11.8% | 9.4% | 3.5% | 1.5% | 6.1% | 8.0% | 2.3% | 1.1% | 1.7% | 3.3% | 0.0% | 3.9% |
| | Inadequate Service | 72.0% | 38.2% | 46.9% | 64.7% | 51.5% | 47.0% | 46.6% | 65.9% | 59.3% | 59.3% | 53.3% | 55.9% | 55.7% |
| | Inaccurate Metering | 0.0% | 0.0% | 0.0% | 1.2% | 1.5% | 0.0% | 2.3% | 2.3% | 1.1% | 1.7% | 3.3% | 2.9% | 1.4% |
| | Serv Rest Interval | 0.0% | 2.9% | 0.0% | 0.0% | 1.5% | 7.6% | 4.5% | 4.5% | 2.2% | 6.8% | 3.3% | 0.0% | 3.2% |
| | Service Ext Interval | 0.0% | 0.0% | 3.1% | 2.4% | 1.5% | 1.5% | 2.3% | 0.0% | 0.0% | 0.0% | 0.0% | 2.9% | 1.1% |
| | Wrongful Disconnect | 4.0% | 14.7% | 6.3% | 14.1% | 30.3% | 21.2% | 26.1% | 8.0% | 17.6% | 15.3% | 6.7% | 8.8% | 16.3% |
| | Inaccurate | 4.0% | 11.8% | 3.1% | 4.7% | 1.5% | 3.0% | 0.0% | 3.4% | 6.6% | 3.4% | 13.3% | 8.8% | 4.4% |
| Total | Billing Error | 17.9% | 17.9% | 27.0% | 11.1% | 10.3% | 12.0% | 9.9% | 13.5% | 13.4% | 12.9% | 14.7% | 22.9% | 13.8% |
| | High Bill | 0.0% | 12.8% | 8.1% | 3.3% | 1.5% | 8.0% | 7.7% | 2.2% | 1.0% | 3.2% | 5.9% | 0.0% | 4.3% |
| | Inadequate Service | 64.3% | 43.6% | 51.4% | 64.4% | 52.9% | 49.3% | 47.3% | 66.3% | 58.8% | 58.1% | 50.0% | 54.3% | 55.8% |
| | Inaccurate Metering | 3.6% | 0.0% | 0.0% | 1.1% | 1.5% | 0.0% | 2.2% | 2.2% | 1.0% | 1.6% | 2.9% | 2.9% | 1.5% |
| | Serv Rest Interval | 3.6% | 2.6% | 0.0% | 0.0% | 1.5% | 8.0% | 5.5% | 4.5% | 2.1% | 6.5% | 5.9% | 0.0% | 3.5% |
| | Service Ext Interval | 0.0% | 0.0% | 5.4% | 2.2% | 1.5% | 1.3% | 2.2% | 0.0% | 1.0% | 0.0% | 0.0% | 2.9% | 1.3% |
| | Wrongful Disconnect | 7.1% | 12.8% | 5.4% | 13.3% | 29.4% | 18.7% | 25.3% | 7.9% | 16.5% | 14.5% | 8.8% | 8.6% | 15.6% |
| | Inaccurate | 3.6% | 10.3% | 2.7% | 4.4% | 1.5% | 2.7% | 0.0% | 3.4% | 6.2% | 3.2% | 11.8% | 8.6% | 4.2% |

***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, 2013 to December 31, 2013

**Name of Utility:** Northern States Power Company
**Address:** 3115 Centre Pointe Drive, Roseville, MN 55113
**Prepared by:** Jeff Eden, Customer Advocate Analyst. Customer Care (303) 294-2214

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

| CustomerType | DTR Status | Jan-13 | Feb-13 | Mar-13 | Apr-13 | May-13 | Jun-13 | Jul-13 | Aug-13 | Sep-13 | Oct-13 | Nov-13 | Dec-13 | 2013 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Commercial | Immediate | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| | 10 Days or Less | 1 | 4 | 4 | 4 | 1 | 5 | 2 | 0 | 5 | 2 | 4 | 1 | 33 |
| | Greater Than 10 Days | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 4 |
| Commercial Total | | 2 | 5 | 5 | 4 | 2 | 7 | 3 | 0 | 6 | 2 | 4 | 1 | 41 |
| Industrial | Immediate | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | 10 Days or Less | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 4 |
| Industrial Total | | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 5 |
| Residential | Immediate | 8 | 9 | 5 | 18 | 13 | 13 | 16 | 23 | 15 | 7 | 4 | 6 | 137 |
| | 10 Days or Less | 14 | 23 | 24 | 65 | 50 | 48 | 69 | 64 | 73 | 51 | 26 | 28 | 535 |
| | Greater Than 10 Days | 3 | 2 | 3 | 2 | 3 | 5 | 3 | 1 | 3 | 1 | 0 | 0 | 26 |
| Residential Total | | 25 | 34 | 32 | 85 | 66 | 66 | 88 | 88 | 91 | 59 | 30 | 34 | 698 |
| Government | 10 Days or Less | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Government Total | | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Grand Total | Immediate | 8 | 10 | 6 | 18 | 13 | 15 | 16 | 23 | 15 | 7 | 4 | 6 | 141 |
| | 10 Days or Less | 16 | 27 | 28 | 70 | 51 | 53 | 71 | 64 | 78 | 53 | 30 | 29 | 570 |
| | Greater Than 10 Days | 4 | 2 | 3 | 2 | 4 | 7 | 4 | 2 | 4 | 2 | 0 | 0 | 34 |
| **Grand Total** | | **28** | **39** | **37** | **90** | **68** | **75** | **91** | **89** | **97** | **62** | **34** | **35** | **745** |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Commercial | Immediate | 0.0% | 20.0% | 20.0% | 0.0% | 0.0% | 28.6% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 9.8% |
| | 10 Days or Less | 50.0% | 80.0% | 80.0% | 100.0% | 50.0% | 71.4% | 66.7% | 0.0% | 83.3% | 100.0% | 100.0% | 100.0% | 80.5% |
| | Greater Than 10 Days | 50.0% | 0.0% | 0.0% | 0.0% | 50.0% | 0.0% | 33.3% | 0.0% | 16.7% | 0.0% | 0.0% | 0.0% | 9.8% |
| Industrial | 10 Days or Less | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 20.0% |
| | Greater Than 10 Days | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | 0.0% | 100.0% | 0.0% | 0.0% | 80.0% |
| Residential | Immediate | 32.0% | 26.5% | 15.6% | 21.2% | 19.7% | 19.7% | 18.2% | 26.1% | 16.5% | 11.9% | 13.3% | 17.6% | 19.6% |
| | 10 Days or Less | 56.0% | 67.6% | 75.0% | 76.5% | 75.8% | 72.7% | 78.4% | 72.7% | 80.2% | 86.4% | 86.7% | 82.4% | 76.6% |
| | Greater Than 10 Days | 12.0% | 5.9% | 9.4% | 2.4% | 4.5% | 7.6% | 3.4% | 1.1% | 3.3% | 1.7% | 0.0% | 0.0% | 3.7% |
| Government | 10 Days or Less | 0.00% | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 100.00% |
| Grand Total | Immediate | 28.6% | 25.6% | 16.2% | 20.0% | 19.1% | 20.0% | 17.6% | 25.8% | 15.5% | 11.3% | 11.8% | 17.1% | 18.9% |
| | 10 Days or Less | 57.1% | 69.2% | 75.7% | 77.8% | 75.0% | 70.7% | 78.0% | 71.9% | 80.4% | 85.5% | 88.2% | 82.9% | 76.5% |
| | Greater Than 10 Days | 14.3% | 5.1% | 8.1% | 2.2% | 5.9% | 9.3% | 4.4% | 2.2% | 4.1% | 3.2% | 0.0% | 0.0% | 4.6% |

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

| CustomerType | MN_Action | Jan-13 | Feb-13 | Mar-13 | Apr-13 | May-13 | Jun-13 | Jul-13 | Aug-13 | Sep-13 | Oct-13 | Nov-13 | Dec-13 | 2013 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Commercial | Action not in Control of Utility | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 2 |
| | Refuse Action Cust Requested | 0 | 0 | 1 | 0 | 1 | 2 | 1 | 0 | 1 | 1 | 2 | 0 | 9 |
| | Take Action Cust and Utility Agree Upon | 1 | 1 | 0 | 2 | 0 | 3 | 2 | 0 | 2 | 1 | 2 | 1 | 15 |
| | Take Action Cust Request | 1 | 4 | 4 | 2 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 15 |
| Commercial Total | | 2 | 5 | 5 | 4 | 2 | 7 | 3 | 0 | 6 | 2 | 4 | 1 | 41 |
| Industrial | Take Action Cust and Utility Agree Upon | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | Take Action Cust Request | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 4 |
| Industrial Total | | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 5 |
| Residential | Action not in Control of Utility | 0 | 1 | 1 | 4 | 2 | 5 | 0 | 2 | 3 | 3 | 4 | 1 | 26 |
| | Refuse Action Cust Requested | 1 | 6 | 5 | 6 | 10 | 10 | 9 | 5 | 7 | 6 | 2 | 5 | 72 |
| | Take Action Cust and Utility Agree Upon | 16 | 18 | 12 | 39 | 35 | 28 | 47 | 43 | 43 | 29 | 9 | 15 | 334 |
| | Take Action Cust Request | 8 | 9 | 14 | 36 | 19 | 23 | 32 | 38 | 38 | 21 | 15 | 13 | 266 |
| Residential Total | | 25 | 34 | 32 | 85 | 66 | 66 | 88 | 88 | 91 | 59 | 30 | 34 | 698 |
| Government | Take Action Cust and Utility Agree Upon | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Government Total | | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Grand Total | Action not in Control of Utility | 0 | 1 | 1 | 4 | 2 | 6 | 0 | 2 | 4 | 3 | 4 | 1 | 28 |
| | Refuse Action Cust Requested | 1 | 6 | 6 | 6 | 11 | 12 | 10 | 5 | 8 | 7 | 4 | 5 | 81 |
| | Take Action Cust and Utility Agree Upon | 18 | 19 | 12 | 42 | 35 | 31 | 49 | 43 | 45 | 30 | 11 | 16 | 351 |
| | Take Action Cust Request | 9 | 13 | 18 | 38 | 20 | 26 | 32 | 39 | 40 | 22 | 15 | 13 | 285 |
| Grand Total | | 28 | 39 | 37 | 90 | 68 | 75 | 91 | 89 | 97 | 62 | 34 | 35 | 745 |

| CustomerType | MN_Action | Jan-13 | Feb-13 | Mar-13 | Apr-13 | May-13 | Jun-13 | Jul-13 | Aug-13 | Sep-13 | Oct-13 | Nov-13 | Dec-13 | 2013 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Commercial | Action Not In Control Of Utility | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 14.3% | 0.0% | 0.0% | 16.7% | 0.0% | 0.0% | 0.0% | 4.9% |
| | Refuse Action Cust Requested | 0.0% | 0.0% | 20.0% | 0.0% | 50.0% | 28.6% | 33.3% | 0.0% | 16.7% | 50.0% | 50.0% | 0.0% | 22.0% |
| | Take Action Cust and Utility Agree Upon | 50.0% | 20.0% | 0.0% | 50.0% | 0.0% | 42.9% | 66.7% | 0.0% | 33.3% | 50.0% | 50.0% | 100.0% | 36.6% |
| | Take Action Cust Request | 50.0% | 80.0% | 80.0% | 50.0% | 50.0% | 14.3% | 0.0% | 0.0% | 33.3% | 0.0% | 0.0% | 0.0% | 36.6% |
| Industrial | Refuse Action Cust Requested | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 20.0% |
| | Take Action Cust Request | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 100.0% | 0.0% | 100.0% | 0.0% | 0.0% | 80.0% |
| Residential | Action Not In Control Of Utility | 0.0% | 2.9% | 3.1% | 4.7% | 3.0% | 7.6% | 0.0% | 2.3% | 3.3% | 5.1% | 13.3% | 2.9% | 3.7% |
| | Refuse Action Cust Requested | 4.0% | 17.6% | 15.6% | 7.1% | 15.2% | 15.2% | 10.2% | 5.7% | 7.7% | 10.2% | 6.7% | 14.7% | 10.3% |
| | Take Action Cust and Utility Agree Upon | 64.0% | 52.9% | 37.5% | 45.9% | 53.0% | 42.4% | 53.4% | 48.9% | 47.3% | 49.2% | 30.0% | 44.1% | 47.9% |
| | Take Action Cust Request | 32.0% | 26.5% | 43.8% | 42.4% | 28.8% | 34.8% | 36.4% | 43.2% | 41.8% | 35.6% | 50.0% | 38.2% | 38.1% |
| Government | Take Action Cust Request | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% |
| Total | Action Not In Control Of Utility | 0.0% | 2.6% | 2.7% | 4.4% | 2.9% | 8.0% | 0.0% | 2.2% | 4.1% | 4.8% | 11.8% | 2.9% | 3.76% |
| | Refuse Action Cust Requested | 3.6% | 15.4% | 16.2% | 6.7% | 16.2% | 16.0% | 11.0% | 5.6% | 8.2% | 11.3% | 11.8% | 14.3% | 10.87% |
| | Take Action Cust and Utility Agree Upon | 64.3% | 48.7% | 32.4% | 46.7% | 51.5% | 41.3% | 53.8% | 48.3% | 46.4% | 48.4% | 32.4% | 45.7% | 47.11% |
| | Take Action Cust Request | 32.1% | 33.3% | 48.6% | 42.2% | 29.4% | 34.7% | 35.2% | 43.8% | 41.2% | 35.5% | 44.1% | 37.1% | 38.26% |

***Minnesota Public Utilities Commission***
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**7826.2000 REPORTING CUSTOMER COMPLAINTS**
For the period of January 01, 2013 to December 31, 2013

**Name of Utility:** Northern States Power Company
**Address:** 3115 Centre Pointe Drive, Roseville, MN 55113
**Prepared by:** Jeff Eden, Customer Advocate Analyst. Customer Care (303) 294-2214

**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-13 | Feb-13 | Mar-13 | Apr-13 | May-13 | Jun-13 | Jul-13 | Aug-13 | Sep-13 | Oct-13 | Nov-13 | Dec-13 | 2013 |
| Commercial | Commission | 1 | 0 | 0 | 1 | 1 | 3 | 0 | 0 | 2 | 1 | 1 | 0 | 10 |
| Commercial Total | | **1** | **0** | **0** | **1** | **1** | **3** | **0** | **0** | **2** | **1** | **1** | **0** | **10** |
| Residential | Commission | 2 | 4 | 3 | 11 | 8 | 4 | 13 | 8 | 9 | 4 | 4 | 7 | 77 |
| | Commission/BBB | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| | Commission/OAG | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| | Commission/Internal | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| Residential Total | | **2** | **4** | **4** | **12** | **10** | **5** | **14** | **8** | **9** | **4** | **4** | **7** | **83** |
| Government | Commission | **0** | **0** | **0** | **1** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **1** |
| Government Total | | **0** | **0** | **0** | **1** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **1** |
| **Grand Total** | | **3** | **4** | **4** | **14** | **11** | **8** | **14** | **8** | **11** | **5** | **5** | **7** | **94** |

**Xcel Energy**
**Customer Complaint Report**
**January, 2013**

**Turnaround Days for Closing a Complaint**

| | Agree | Compromise | Demonstrate | Refuse | Total | % | Initial Inquiry | within 10 days | Longer than 10 days |
|---|---|---|---|---|---|---|---|---|---|
| **Commercial** | | | | | | | | | |
| Billing errors | 2671 | 18 | 21 | 4 | 2,714 | 74.66% | 2,702 | 11 | 1 |
| Inaccurate Metering | 20 | 0 | 0 | 0 | 20 | 0.55% | 17 | 3 | 0 |
| Wrongful Disconnect | 264 | 6 | 9 | 1 | 280 | 7.70% | 278 | 2 | 0 |
| High Bill | 97 | 0 | 0 | 0 | 97 | 2.67% | 96 | 1 | 0 |
| Inadequate Service | 282 | 7 | 9 | 0 | 298 | 8.20% | 296 | 1 | 1 |
| Service Extension | 1 | 0 | 0 | 0 | 1 | 0.03% | 1 | 0 | 0 |
| Service Restoration | 217 | 4 | 4 | 0 | 225 | 6.19% | 225 | 0 | 0 |
| Total Commercial | 3,552 | 35 | 43 | 5 | 3,635 | | 3,615 | 18 | 2 |
| Total Commercial Percentage | 97.72% | 0.96% | 1.18% | 0.14% | | | | | |
| **Industrial** | | | | | | | | | |
| Billing errors | 350 | 5 | 2 | 0 | 357 | 77.27% | 356 | 1 | 0 |
| Inaccurate Metering | 4 | 0 | 0 | 0 | 4 | 0.87% | 4 | 0 | 0 |
| Wrongful Disconnect | 14 | 0 | 0 | 0 | 14 | 3.03% | 14 | 0 | 0 |
| High Bill | 2 | 0 | 0 | 0 | 2 | 0.43% | 2 | 0 | 0 |
| Inadequate Service | 33 | 3 | 0 | 0 | 36 | 7.79% | 35 | 1 | 0 |
| Service Extension | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Service Restoration | 48 | 0 | 1 | 0 | 49 | 10.61% | 49 | 0 | 0 |
| Total Industrial | 451 | 8 | 3 | 0 | 462 | | 460 | 2 | 0 |
| Total Industrial Percentage | 97.62% | 1.73% | 0.65% | 0.00% | | | | | |
| **Residential** | | | | | | | | | |
| Billing errors | 31253 | 406 | 369 | 19 | 32,047 | 58.29% | 32000 | 33 | 1 |
| Inaccurate Metering | 46 | 1 | 2 | 0 | 49 | 0.09% | 48 | 1 | 0 |
| Wrongful Disconnect | 9949 | 125 | 184 | 8 | 10,266 | 18.67% | 10254 | 11 | 0 |
| High Bill | 1473 | 39 | 52 | 0 | 1,564 | 2.84% | 1561 | 3 | 0 |
| Inadequate Service | 9293 | 202 | 285 | 2 | 9,782 | 17.79% | 9773 | 9 | 0 |
| Service Extension | 13 | 1 | 0 | 0 | 14 | 0.03% | 14 | 0 | 0 |
| Service Restoration | 1195 | 28 | 29 | 1 | 1,253 | 2.28% | 1251 | 2 | 0 |
| Total Residential | 53,222 | 802 | 921 | 30 | 54,975 | | 54,901 | 59 | 1 |
| Total Residential Percentage | 96.81% | 1.46% | 1.68% | 0.05% | | | | | |
| **Total State of Minnesota** | **57,225** | **845** | **967** | **35** | **59,072** | | **58,976** | **79** | **3** |
| **Total ST of MN Percentage** | **96.87%** | **1.43%** | **1.64%** | **0.06%** | | | | | |

**Xcel Energy**
**Customer Complaint Report**
**February, 2013**

| | Agree | Compromise | Demonstrate | Refuse | Total | % | Initial Inquiry | within 10 days | Longer than 10 days |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | **Turnaround Days for Closing a Complaint** | | |
| **Commercial** | | | | | | | | | |
| Billing errors | 2,168 | 16 | 11 | 0 | 2,195 | 75.77% | 2,184 | 11 | 0 |
| Inaccurate Metering | 12 | 0 | 0 | 0 | 12 | 0.41% | 12 | 0 | 0 |
| Wrongful Disconnect | 213 | 3 | 7 | 0 | 223 | 7.70% | 220 | 3 | 0 |
| High Bill | 88 | 1 | 1 | 0 | 90 | 3.11% | 89 | 1 | 0 |
| Inadequate Service | 189 | 2 | 3 | 0 | 194 | 6.70% | 190 | 4 | 0 |
| Service Extension | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Service Restoration | 175 | 2 | 6 | 0 | 183 | 6.32% | 183 | 0 | 0 |
| Total Commercial | 2,845 | 24 | 28 | 0 | 2,897 | | 2,878 | 19 | 0 |
| Total Commercial Percent | 98.21% | 0.83% | 0.97% | 0.00% | | | | | |
| **Industrial** | | | | | | | | | |
| Billing errors | 272 | 2 | 0 | 0 | 274 | 74.05% | 273 | 1 | 0 |
| Inaccurate Metering | 1 | 0 | 0 | 0 | 1 | 0.27% | 1 | 0 | 0 |
| Wrongful Disconnect | 6 | 0 | 0 | 0 | 6 | 1.62% | 5 | 1 | 0 |
| High Bill | 1 | 0 | 0 | 0 | 1 | 0.27% | 1 | 0 | 0 |
| Inadequate Service | 34 | 0 | 0 | 0 | 34 | 9.19% | 33 | 1 | 0 |
| Service Extension | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Service Restoration | 52 | 1 | 1 | 0 | 54 | 14.59% | 54 | 0 | 0 |
| Total Industrial | 366 | 3 | 1 | 0 | 370 | | 367 | 3 | 0 |
| Total Industrial Percentage | 98.92% | 0.81% | 0.27% | 0.00% | | | | | |
| **Residential** | | | | | | | | | |
| Billing errors | 27,949 | 386 | 300 | 16 | 28,651 | 59.03% | 28,606 | 33 | 0 |
| Inaccurate Metering | 37 | 1 | 1 | 0 | 39 | 0.08% | 39 | 0 | 0 |
| Wrongful Disconnect | 8,736 | 93 | 183 | 11 | 9,023 | 18.59% | 9,017 | 6 | 0 |
| High Bill | 1,179 | 35 | 46 | 2 | 1,262 | 2.60% | 1,261 | 1 | 0 |
| Inadequate Service | 8,066 | 179 | 196 | 3 | 8,444 | 17.40% | 8,438 | 6 | 0 |
| Service Extension | 9 | 0 | 2 | 0 | 11 | 0.02% | 11 | 0 | 0 |
| Service Restoration | 1,053 | 21 | 31 | 1 | 1,106 | 2.28% | 1,104 | 2 | 0 |
| Total Residential | 47,029 | 715 | 759 | 33 | 48,536 | | 48,476 | 48 | 0 |
| Total Residential Percentage | 96.90% | 1.47% | 1.56% | 0.07% | | | | | |
| **Total State of Minnesota** | **50,240** | **742** | **788** | **33** | **51,803** | | **51,721** | **70** | **0** |
| **Total ST of MN Percentage** | **96.98%** | **1.43%** | **1.52%** | **0.06%** | | | | | |

**Xcel Energy**
**Customer Complaint Report**
**March, 2013**

**Turnaround Days for Closing a Complaint**

| | Agree | Compromise | Demonstrate | Refuse | Total | % | Initial Inquiry | within 10 days | Longer than 10 days |
|---|---|---|---|---|---|---|---|---|---|
| **Commercial** | | | | | | | | | |
| Billing errors | 2,311 | 15 | 17 | 1 | 2,344 | 77.11% | 2334 | 9 | 1 |
| Inaccurate Metering | 11 | 0 | 0 | 0 | 11 | 0.36% | 11 | 0 | 0 |
| Wrongful Disconnect | 214 | 1 | 1 | 1 | 217 | 7.14% | 216 | 1 | 0 |
| High Bill | 50 | 3 | 1 | 0 | 54 | 1.78% | 54 | 0 | 0 |
| Inadequate Service | 241 | 3 | 3 | 0 | 247 | 8.13% | 244 | 3 | 0 |
| Service Extension | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Service Restoration | 163 | 1 | 3 | 0 | 167 | 5.49% | 167 | 0 | 0 |
| Total Commercial | 2,990 | 23 | 25 | 2 | 3,040 | | 3,026 | 13 | 1 |
| Total Commercial Percent | 98.36% | 0.76% | 0.82% | 0.07% | | | | | |
| **Industrial** | | | | | | | | | |
| Billing errors | 240 | 3 | 0 | 0 | 243 | 75.70% | 241 | 2 | 0 |
| Inaccurate Metering | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Wrongful Disconnect | 8 | 0 | 0 | 0 | 8 | 2.49% | 8 | 0 | 0 |
| High Bill | 5 | 0 | 1 | 0 | 6 | 1.87% | 6 | 0 | 0 |
| Inadequate Service | 28 | 0 | 0 | 0 | 28 | 8.72% | 28 | 0 | 0 |
| Service Extension | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Service Restoration | 35 | 0 | 1 | 0 | 36 | 11.21% | 36 | 0 | 0 |
| Total Industrial | 316 | 3 | 2 | 0 | 321 | | 319 | 2 | 0 |
| Total Industrial Percentage | 98.44% | 0.93% | 0.62% | 0.00% | | | | | |
| **Residential** | | | | | | | | | |
| Billing errors | 30,001 | 378 | 407 | 14 | 30,800 | 58.59% | 30,764 | 33 | 2 |
| Inaccurate Metering | 26 | 0 | 2 | 0 | 28 | 0.05% | 28 | 0 | 0 |
| Wrongful Disconnect | 10,709 | 117 | 182 | 16 | 11,024 | 20.97% | 11019 | 4 | 1 |
| High Bill | 788 | 14 | 42 | 1 | 845 | 1.61% | 843 | 1 | 1 |
| Inadequate Service | 8,434 | 189 | 226 | 6 | 8,855 | 16.84% | 8843 | 12 | 0 |
| Service Extension | 8 | 1 | 0 | 0 | 9 | 0.02% | 9 | 0 | 0 |
| Service Restoration | 964 | 20 | 23 | 1 | 1,008 | 1.92% | 1,008 | 0 | 0 |
| Total Residential | 50,930 | 719 | 882 | 38 | 52,569 | | 52,514 | 50 | 4 |
| Total Residential Percentage | 96.88% | 1.37% | 1.68% | 0.07% | | | | | |
| **Total State of Minnesota** | **54,236** | **745** | **909** | **40** | **55,930** | | **55,859** | **65** | **5** |
| **Total ST of MN Percentage** | **96.97%** | **1.33%** | **1.63%** | **0.07%** | | | | | |

**Xcel Energy**
**Customer Complaint Report**
**April, 2013**

| | | | | | | | Turnaround Days for Closing a Complaint | | |
|---|---|---|---|---|---|---|---|---|---|
| | **Agree** | **Compromise** | **Demonstrate** | **Refuse** | **Total** | **%** | **Initial Inquiry** | **within 10 days** | **Longer than 10 days** |
| **Commercial** | | | | | | | | | |
| Billing errors | 2,284 | 19 | 27 | 0 | 2,330 | 73.09% | 2325 | 4 | 1 |
| Inaccurate Metering | 15 | 1 | 0 | 0 | 16 | 0.50% | 15 | 1 | 0 |
| Wrongful Disconnect | 281 | 4 | 3 | 0 | 288 | 9.03% | 286 | 2 | 0 |
| High Bill | 36 | 1 | 1 | 0 | 38 | 1.19% | 38 | 0 | 0 |
| Inadequate Service | 277 | 4 | 3 | 0 | 284 | 8.91% | 283 | 1 | 0 |
| Service Extension | 1 | 0 | 0 | 0 | 1 | 0.03% | 1 | 0 | 0 |
| Service Restoration | 223 | 2 | 6 | 0 | 231 | 7.25% | 230 | 1 | 0 |
| Total Commercial | 3,117 | 31 | 40 | 0 | 3,188 | 100% | 3,178 | 9 | 1 |
| Total Commercial Percent | 97.77% | 0.97% | 1.25% | 0.00% | | | | | |
| **Industrial** | | | | | 305 | | | | |
| Billing errors | 299 | 3 | 3 | 0 | 4 | 74.03% | 305 | 0 | 0 |
| Inaccurate Metering | 4 | 0 | 0 | 0 | 8 | 0.97% | 4 | 0 | 0 |
| Wrongful Disconnect | 8 | 0 | 0 | 0 | 2 | 1.94% | 8 | 0 | 0 |
| High Bill | 2 | 0 | 0 | 0 | 35 | 0.49% | 2 | 0 | 0 |
| Inadequate Service | 35 | 0 | 0 | 0 | 1 | 8.50% | 34 | 1 | 0 |
| Service Extension | 1 | 0 | 0 | 0 | 57 | 0.24% | 1 | 0 | 0 |
| Service Restoration | 56 | 0 | 1 | 0 | | 13.83% | 56 | 1 | 0 |
| Total Industrial | 405 | 3 | 4 | 0 | 412 | | 410 | 2 | 0 |
| Total Industrial Percentage | 98.30% | 0.73% | 0.97% | 0.00% | | | | | |
| **Residential** | | | | | 33,103 | | | | |
| Billing errors | 32,244 | 452 | 384 | 23 | 35 | 48.88% | 33,071 | 30 | 1 |
| Inaccurate Metering | 31 | 2 | 2 | 0 | 18,914 | 0.05% | 34 | 1 | 0 |
| Wrongful Disconnect | 18,156 | 344 | 395 | 19 | 679 | 27.93% | 18906 | 7 | 0 |
| High Bill | 630 | 16 | 29 | 4 | 13,112 | 1.00% | 677 | 2 | 0 |
| Inadequate Service | 12,383 | 391 | 324 | 14 | 23 | 19.36% | 13104 | 6 | 2 |
| Service Extension | 17 | 1 | 5 | 0 | 1,859 | 0.03% | 23 | 0 | 0 |
| Service Restoration | 1,791 | 25 | 42 | 1 | | 2.74% | 1,858 | 0 | 0 |
| | | | | | 67,725 | | | | |
| Total Residential | 65,252 | 1,231 | 1,181 | 61 | | | 67,673 | 46 | 3 |
| Total Residential Percentage | 96.35% | 1.82% | 1.74% | 0.09% | | | | | |
| **Total State of Minnesota** | **68,774** | **1,265** | **1,225** | **61** | **71,325** | | **71,261** | **57** | **4** |
| **Total ST of MN Percentage** | **96.42%** | **1.77%** | **1.72%** | **0.09%** | | | | | |

**Xcel Energy**
**Customer Complaint Report**
**May, 2013**

| | Agree | Compromise | Demonstrate | Refuse | Total | % | Initial Inquiry | within 10 days | Longer than 10 days |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | **Turnaround Days for Closing a Complaint** | | |
| **Commercial** | | | | | | | | | |
| Billing errors | 2,150 | 10 | 33 | 0 | 2,193 | 72.14% | 2182 | 11 | 0 |
| Inaccurate Metering | 14 | 0 | 0 | 0 | 14 | 0.46% | 14 | 0 | 0 |
| Wrongful Disconnect | 220 | 1 | 5 | 1 | 227 | 7.47% | 224 | 3 | 0 |
| High Bill | 37 | 1 | 1 | 0 | 39 | 1.28% | 39 | 0 | 0 |
| Inadequate Service | 258 | 5 | 2 | 0 | 265 | 8.72% | 264 | 1 | 0 |
| Service Extension | 2 | 0 | 0 | 0 | 2 | 0.07% | 2 | 0 | 0 |
| Service Restoration | 289 | 4 | 7 | 0 | 300 | 9.87% | 299 | 1 | 0 |
| Total Commercial | 2,970 | 21 | 48 | 1 | 3,040 | | 3,024 | 16 | 0 |
| Total Commercial Percent | 97.70% | 0.69% | 1.58% | 0.03% | | | | | |
| **Industrial** | | | | | | | | | |
| Billing errors | 264 | 2 | 3 | 0 | 269 | 71.16% | 264 | 5 | 0 |
| Inaccurate Metering | 4 | 0 | 0 | 0 | 4 | 1.06% | 4 | 0 | 0 |
| Wrongful Disconnect | 2 | 0 | 0 | 0 | 2 | 0.53% | 2 | 0 | 0 |
| High Bill | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Inadequate Service | 29 | 0 | 0 | 0 | 29 | 7.67% | 28 | 1 | 0 |
| Service Extension | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Service Restoration | 73 | 1 | 0 | 0 | 74 | 19.58% | 74 | 0 | 0 |
| Total Industrial | 372 | 3 | 3 | 0 | 378 | | 372 | 6 | 0 |
| Total Industrial Percentage | 98.41% | 0.79% | 0.79% | 0.00% | | | | | |
| **Residential** | | | | | | | | | |
| Billing errors | 32,148 | 455 | 429 | 22 | 33,054 | 49.46% | 33,007 | 42 | 1 |
| Inaccurate Metering | 39 | 4 | 2 | 0 | 45 | 0.07% | 45 | 0 | 0 |
| Wrongful Disconnect | 17,168 | 388 | 444 | 26 | 18,026 | 26.97% | 18014 | 10 | 1 |
| High Bill | 525 | 14 | 22 | 0 | 561 | 0.84% | 561 | 0 | 0 |
| Inadequate Service | 12,136 | 327 | 321 | 14 | 12,798 | 19.15% | 12786 | 11 | 1 |
| Service Extension | 25 | 0 | 3 | 0 | 28 | 0.04% | 28 | 0 | 0 |
| Service Restoration | 2,217 | 34 | 64 | 1 | 2,316 | 3.47% | 2,316 | 0 | 0 |
| Total Residential | 64,258 | 1,222 | 1,285 | 63 | 66,828 | | 66,757 | 63 | 3 |
| Total Residential Percentage | 96.15% | 1.83% | 1.92% | 0.09% | | | | | |
| **Total State of Minnesota** | **67,600** | **1,246** | **1,336** | **64** | **70,246** | | **70,153** | **85** | **3** |
| **Total ST of MN Percentage** | **96.23%** | **1.77%** | **1.90%** | **0.09%** | | | | | |

**Xcel Energy**
**Customer Complaint Report**
**June, 2013**

| | Agree | Compromise | Demonstrate | Refuse | Total | % | Initial Inquiry | Turnaround Days for Closing a Complaint: within 10 days | Longer than 10 days |
|---|---|---|---|---|---|---|---|---|---|
| **Commercial** | | | | | | | | | |
| Billing errors | 2,000 | 18 | 18 | 0 | 2,036 | 55.90% | 2032 | 4 | 0 |
| Inaccurate Metering | 9 | 0 | 0 | 0 | 9 | 0.25% | 9 | 0 | 0 |
| Wrongful Disconnect | 181 | 2 | 3 | | 186 | 5.11% | 186 | 0 | 0 |
| High Bill | 59 | 2 | 0 | 0 | 61 | 1.67% | 61 | 0 | 0 |
| Inadequate Service | 220 | 3 | 6 | 0 | 229 | 6.29% | 229 | 0 | 0 |
| Service Extension | 4 | 1 | 0 | 0 | 5 | 0.14% | 5 | 0 | 0 |
| Service Restoration | 1,057 | 18 | 40 | 1 | 1116 | 30.64% | 1115 | 0 | 1 |
| Total Commercial | 3,530 | 44 | 67 | 1 | 3,642 | | 3,637 | 4 | 1 |
| Total Commercial Percent | 96.92% | 1.21% | 1.84% | 0.03% | | | | | |
| **Industrial** | | | | | | | | | |
| Billing errors | 218 | 0 | 0 | 0 | 218 | 38.65% | 217 | 1 | 0 |
| Inaccurate Metering | 2 | 0 | 0 | 0 | 2 | 0.35% | 2 | 0 | 0 |
| Wrongful Disconnect | 11 | 0 | 0 | 0 | 11 | 1.95% | 10 | 1 | 0 |
| High Bill | 2 | 1 | 0 | 0 | 3 | 0.53% | 3 | 0 | 0 |
| Inadequate Service | 26 | 0 | 0 | 0 | 26 | 4.61% | 26 | 0 | 0 |
| Service Extension | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Service Restoration | 287 | 6 | 11 | 0 | 304 | 53.90% | 304 | 0 | 0 |
| Total Industrial | 546 | 7 | 11 | 0 | 564 | | 562 | 2 | 0 |
| Total Industrial Percentage | 96.81% | 1.24% | 1.95% | 0.00% | | | | | |
| **Residential** | | | | | | | | | |
| Billing errors | 31,372 | 420 | 405 | 17 | 32,214 | 43.23% | 32,186 | 26 | 0 |
| Inaccurate Metering | 70 | 6 | 3 | 0 | 79 | 0.11% | 78 | 1 | 0 |
| Wrongful Disconnect | 14,355 | 212 | 326 | 22 | 14,915 | 20.02% | 14904 | 10 | 0 |
| High Bill | 635 | 13 | 35 | 1 | 684 | 0.92% | 683 | 1 | 0 |
| Inadequate Service | 10,174 | 259 | 319 | 11 | 10,763 | 14.45% | 10752 | 11 | 0 |
| Service Extension | 37 | 3 | 3 | 0 | 43 | 0.06% | 43 | 0 | 0 |
| Service Restoration | 14,880 | 239 | 684 | 9 | 15,812 | 21.22% | 15,805 | 7 | 0 |
| Total Residential | 71,523 | 1,152 | 1,775 | 60 | 74,510 | | 74,451 | 56 | 0 |
| Total Residential Percentage | 95.99% | 1.55% | 2.38% | 0.08% | | | | | |
| **Total State of Minnesota** | **75,599** | **1,203** | **1,853** | **61** | **78,716** | | **78,650** | **62** | **1** |
| **Total ST of MN Percentage** | **96.04%** | **1.53%** | **2.35%** | **0.08%** | | | | | |

**Xcel Energy**
**Customer Complaint Report**
**July, 2013**

| | Agree | Compromise | Demonstrate | Refuse | Total | % | Initial Inquiry | within 10 days | Longer than 10 days |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | **Turnaround Days for Closing a Complaint** | | |
| **Commercial** | | | | | | | | | |
| Billing errors | 2,236 | 26 | 4 | 5 | 2,271 | 68.44% | 2263 | 6 | 1 |
| Inaccurate Metering | 22 | 0 | 0 | 0 | 22 | 0.66% | 21 | 1 | 0 |
| Wrongful Disconnect | 203 | 5 | 9 | 1 | 218 | 6.57% | 217 | 1 | 0 |
| High Bill | 82 | 0 | 5 | 0 | 87 | 2.62% | 87 | 0 | 0 |
| Inadequate Service | 230 | 2 | 3 | 0 | 235 | 7.08% | 233 | 2 | 0 |
| Service Extension | 2 | 0 | 2 | 0 | 4 | 0.12% | 4 | 0 | 0 |
| Service Restoration | 468 | 7 | 6 | 0 | 481 | 14.50% | 481 | 0 | 0 |
| Total Commercial | 3,243 | 40 | 29 | 6 | 3,318 | | 3,306 | 10 | 1 |
| Total Commercial Percent | 97.74% | 1.21% | 0.87% | 0.18% | | | | | |
| **Industrial** | | | | | | | | | |
| Billing errors | 289 | 3 | 3 | 0 | 295 | 62.50% | 293 | 2 | 0 |
| Inaccurate Metering | 3 | 0 | 0 | 0 | 3 | 0.64% | 3 | 0 | 0 |
| Wrongful Disconnect | 6 | 0 | 0 | 0 | 6 | 1.27% | 5 | 1 | 0 |
| High Bill | 11 | 0 | 0 | 0 | 11 | 2.33% | 11 | 0 | 0 |
| Inadequate Service | 25 | 0 | 1 | 0 | 26 | 5.51% | 26 | 0 | 0 |
| Service Extension | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Service Restoration | 127 | 1 | 3 | 0 | 131 | 27.75% | 131 | 0 | 0 |
| Total Industrial | 461 | 4 | 7 | 0 | 472 | | 469 | 3 | 0 |
| Total Industrial Percentage | 97.67% | 0.85% | 1.48% | 0.00% | | | | | |
| **Residential** | | | | | | | | | |
| Billing errors | 36,860 | 497 | 473 | 21 | 37,851 | 52.94% | 37,810 | 40 | 1 |
| Inaccurate Metering | 158 | 9 | 2 | 0 | 169 | 0.24% | 169 | 0 | 0 |
| Wrongful Disconnect | 15,143 | 185 | 372 | 24 | 15,724 | 21.99% | 15706 | 12 | 1 |
| High Bill | 1,760 | 53 | 54 | 1 | 1,868 | 2.61% | 1868 | 0 | 0 |
| Inadequate Service | 11,302 | 275 | 303 | 7 | 11,887 | 16.63% | 11878 | 9 | 0 |
| Service Extension | 29 | 2 | 11 | 0 | 42 | 0.06% | 42 | 0 | 0 |
| Service Restoration | 3,766 | 64 | 119 | 2 | 3,951 | 5.53% | 3,948 | 2 | 0 |
| Total Residential | 69,018 | 1,085 | 1,334 | 55 | 71,492 | | 71,421 | 63 | 2 |
| Total Residential Percentage | 96.54% | 1.52% | 1.87% | 0.08% | | | | | |
| **Total State of Minnesota** | **72,722** | **1,129** | **1,370** | **61** | **75,282** | | **75,196** | **76** | **3** |
| **Total ST of MN Percentage** | **96.60%** | **1.50%** | **1.82%** | **0.08%** | | | | | |

**Xcel Energy**
**Customer Complaint Report**
**August, 2013**

| | Agree | Compromise | Demonstrate | Refuse | Total | % | Initial Inquiry | within 10 days | Longer than 10 days |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | **Turnaround Days for Closing a Complaint** | | |
| **Commercial** | | | | | | | | | |
| Billing errors | 2,198 | 29 | 18 | 3 | 2,248 | 66.45% | 2240 | 8 | 0 |
| Inaccurate Metering | 9 | 0 | 0 | 0 | 9 | 0.27% | 8 | 1 | 0 |
| Wrongful Disconnect | 210 | 1 | 6 | 0 | 217 | 6.41% | 215 | 2 | 0 |
| High Bill | 99 | 1 | 0 | 0 | 100 | 2.96% | 100 | 0 | 0 |
| Inadequate Service | 286 | 5 | 6 | 0 | 297 | 8.78% | 295 | 2 | 0 |
| Service Extension | 1 | 2 | 0 | 0 | 3 | 0.09% | 3 | 0 | 0 |
| Service Restoration | 488 | 6 | 15 | 0 | 509 | 15.05% | 508 | 1 | 0 |
| Total Commercial | 3,291 | 44 | 45 | 3 | 3,383 | | 3,369 | 14 | 0 |
| Total Commercial Percent | 97.28% | 1.30% | 1.33% | 0.09% | | | | | |
| **Industrial** | | | | | | | | | |
| Billing errors | 265 | 1 | 1 | 0 | 267 | 53.40% | 267 | 0 | 0 |
| Inaccurate Metering | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Wrongful Disconnect | 14 | 0 | 0 | 0 | 14 | 2.80% | 14 | 0 | 0 |
| High Bill | 10 | 0 | 0 | 0 | 10 | 2.00% | 9 | 1 | 0 |
| Inadequate Service | 30 | 0 | 1 | 0 | 31 | 6.20% | 30 | 1 | 0 |
| Service Extension | 1 | 0 | 0 | 0 | 1 | 0.20% | 1 | 0 | 0 |
| Service Restoration | 166 | 2 | 9 | 0 | 177 | 35.40% | 177 | 0 | 0 |
| Total Industrial | 486 | 3 | 11 | 0 | 500 | | 498 | 2 | 0 |
| Total Industrial Percentage | 97.20% | 0.60% | 2.20% | 0.00% | | | | | |
| **Residential** | | | | | | | | | |
| Billing errors | 34,305 | 700 | 408 | 19 | 35,432 | 49.38% | 35,405 | 24 | 1 |
| Inaccurate Metering | 90 | 3 | 1 | 0 | 94 | 0.13% | 94 | 0 | 0 |
| Wrongful Disconnect | 15,620 | 451 | 508 | 42 | 16,621 | 23.16% | 16608 | 11 | 0 |
| High Bill | 1,835 | 66 | 72 | 2 | 1,975 | 2.75% | 1974 | 1 | 0 |
| Inadequate Service | 11,796 | 412 | 293 | 10 | 12,511 | 17.44% | 12503 | 6 | 2 |
| Service Extension | 41 | 6 | 6 | 0 | 53 | 0.07% | 53 | 0 | 0 |
| Service Restoration | 4,745 | 91 | 230 | 2 | 5,068 | 7.06% | 5,066 | 2 | 0 |
| Total Residential | 68,432 | 1,729 | 1,518 | 75 | 71,754 | | 71,703 | 44 | 3 |
| Total Residential Percentage | 95.37% | 2.41% | 2.12% | 0.10% | | | | | |
| **Total State of Minnesota** | **72,209** | **1,776** | **1,574** | **78** | **75,637** | | **75,570** | **60** | **3** |
| **Total ST of MN Percentage** | **95.47%** | **2.35%** | **2.08%** | **0.10%** | | | | | |

**Xcel Energy**
**Customer Complaint Report**
**September, 2013**

**Turnaround Days for Closing a Complaint**

| | Agree | Compromise | Demonstrate | Refuse | Total | % | Initial Inquiry | within 10 days | Longer than 10 days |
|---|---|---|---|---|---|---|---|---|---|
| **Commercial** | | | | | | | | | |
| Billing errors | 2,711 | 33 | 15 | 0 | 2,759 | 76.49% | 2752 | 6 | 1 |
| Inaccurate Metering | 10 | 0 | 1 | 0 | 11 | 0.30% | 10 | 1 | 0 |
| Wrongful Disconnect | 161 | 2 | 3 | 1 | 167 | 4.63% | 165 | 2 | 0 |
| High Bill | 58 | 2 | 1 | 0 | 61 | 1.69% | 61 | 0 | 0 |
| Inadequate Service | 220 | 7 | 4 | 0 | 231 | 6.40% | 230 | 1 | 0 |
| Service Extension | 0 | 0 | 1 | 0 | 1 | 0.03% | 1 | 0 | 0 |
| Service Restoration | 364 | 6 | 7 | 0 | 377 | 10.45% | 375 | 1 | 0 |
| Total Commercial | 3,524 | 50 | 32 | 1 | 3,607 | | 3,594 | 11 | 1 |
| Total Commercial Percent | 97.70% | 1.39% | 0.89% | 0.03% | | | | | |
| **Industrial** | | | | | | | | | |
| Billing errors | 268 | 1 | 0 | 0 | 269 | 66.09% | 268 | 1 | 0 |
| Inaccurate Metering | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Wrongful Disconnect | 5 | 0 | 0 | 0 | 5 | 1.23% | 5 | 0 | 0 |
| High Bill | 4 | 0 | 0 | 0 | 4 | 0.98% | 4 | 0 | 0 |
| Inadequate Service | 19 | 3 | 0 | 0 | 22 | 5.41% | 22 | 0 | 0 |
| Service Extension | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Service Restoration | 102 | 1 | 4 | 0 | 107 | 26.29% | 107 | 0 | 0 |
| Total Industrial | 398 | 5 | 4 | 0 | 407 | | 406 | 1 | 0 |
| Total Industrial Percentage | 97.79% | 1.23% | 0.98% | 0.00% | | | | | |
| **Residential** | | | | | | | | | |
| Billing errors | 35,994 | 610 | 506 | 24 | 37,134 | 53.74% | 37,084 | 50 | 0 |
| Inaccurate Metering | 69 | 0 | 1 | 0 | 70 | 0.10% | 70 | 0 | 0 |
| Wrongful Disconnect | 15,140 | 399 | 593 | 38 | 16,170 | 23.40% | 16156 | 13 | 0 |
| High Bill | 1,144 | 43 | 57 | 2 | 1,246 | 1.80% | 1245 | 1 | 0 |
| Inadequate Service | 11,365 | 357 | 309 | 10 | 12,041 | 17.43% | 12033 | 7 | 1 |
| Service Extension | 24 | 3 | 11 | 0 | 38 | 0.05% | 37 | 1 | 0 |
| Service Restoration | 2,297 | 38 | 67 | 0 | 2,402 | 3.48% | 2,395 | 7 | 0 |
| Total Residential | 66,033 | 1,450 | 1,544 | 74 | 69,101 | | 69,020 | 79 | 1 |
| Total Residential Percentage | 95.56% | 2.10% | 2.23% | 0.11% | | | | | |
| **Total State of Minnesota** | **69,955** | **1,505** | **1,580** | **75** | **73,115** | | **73,020** | **91** | **2** |
| **Total ST of MN Percentage** | **95.68%** | **2.06%** | **2.16%** | **0.10%** | | | | | |

**Xcel Energy**
**Customer Complaint Report**
**October, 2013**

**Turnaround Days for Closing a Complaint**

| | Agree | Compromise | Demonstrate | Refuse | Total | % | Initial Inquiry | within 10 days | Longer than 10 days |
|---|---|---|---|---|---|---|---|---|---|
| **Commercial** | | | | | | | | | |
| Billing errors | 2,758 | 29 | 12 | 0 | 2799 | 76.33% | 2,792 | 7 | 0 |
| Inaccurate Metering | 9 | 0 | 0 | 0 | 9 | 0.25% | 9 | 0 | 0 |
| Wrongful Disconnect | 239 | 7 | 4 | 0 | 250 | 6.82% | 250 | 0 | 0 |
| High Bill | 59 | 2 | 0 | 0 | 61 | 1.66% | 61 | 0 | 0 |
| Inadequate Service | 295 | 5 | 2 | 0 | 302 | 8.24% | 299 | 3 | 0 |
| Service Extension | 3 | 0 | 0 | 0 | 3 | 0.08% | 3 | 0 | 0 |
| Service Restoration | 236 | 2 | 5 | 0 | 243 | 6.63% | 243 | 0 | 0 |
| Total Commercial | 3,599 | 45 | 23 | 0 | 3,667 | | 3,657 | 10 | 0 |
| Total Commercial Percent | 98.15% | 1.23% | 0.63% | 0.00% | | | | | |
| **Industrial** | | | | | | | | | |
| Billing errors | 341 | 2 | 2 | 0 | 345 | 75.16% | 343 | 2 | 0 |
| Inaccurate Metering | 3 | 0 | 0 | 0 | 3 | 0.65% | 3 | 0 | 0 |
| Wrongful Disconnect | 11 | 0 | 0 | 0 | 11 | 2.40% | 11 | 0 | 0 |
| High Bill | 6 | 0 | 0 | 0 | 6 | 1.31% | 6 | 0 | 0 |
| Inadequate Service | 26 | 1 | 0 | 0 | 27 | 5.88% | 26 | 1 | 0 |
| Service Extension | 1 | 0 | 0 | 0 | 1 | 0.22% | 1 | 0 | 0 |
| Service Restoration | 66 | 0 | 0 | 0 | 66 | 14.38% | 66 | 0 | 0 |
| Total Industrial | 454 | 3 | 2 | 0 | 459 | | 456 | 3 | 0 |
| Total Industrial Percentage | 98.91% | 0.65% | 0.44% | 0.00% | | | | | |
| **Residential** | | | | | | | | | |
| Billing errors | 36,027 | 403 | 489 | 15 | 36,934 | 54.55% | 36,901 | 31 | 2 |
| Inaccurate Metering | 39 | 0 | 0 | 0 | 39 | 0.06% | 38 | 1 | 0 |
| Wrongful Disconnect | 13,605 | 366 | 335 | 33 | 14,339 | 21.18% | 14,332 | 7 | 0 |
| High Bill | 1,217 | 34 | 41 | 0 | 1,292 | 1.91% | 1292 | 0 | 0 |
| Inadequate Service | 12,328 | 324 | 366 | 9 | 13,027 | 19.24% | 13,003 | 24 | 0 |
| Service Extension | 32 | 3 | 10 | 0 | 45 | 0.07% | 45 | 0 | 0 |
| Service Restoration | 1,937 | 35 | 61 | 2 | 2,035 | 3.01% | 2,033 | 2 | 0 |
| Total Residential | 65,185 | 1,165 | 1,302 | 59 | 67,711 | | 67,644 | 65 | 2 |
| Total Residential Percentage | 96.27% | 1.72% | 1.92% | 0.09% | | | | | |
| **Total State of Minnesota** | **69,238** | **1,213** | **1,327** | **59** | **71,837** | | **71,757** | **78** | **2** |
| **Total ST of MN Percentage** | **96.38%** | **1.69%** | **1.85%** | **0.08%** | | | | | |

**Xcel Energy**
**Customer Complaint Report**
**November, 2013**

**Turnaround Days for Closing a Complaint**

| | Agree | Compromise | Demonstrate | Refuse | Total | % | Initial Inquiry | within 10 days | Longer than 10 days |
|---|---|---|---|---|---|---|---|---|---|
| **Commercial** | | | | | | | | | |
| Billing errors | 2,245 | 21 | 12 | 1 | 2,279 | 77.39% | 2,274 | 5 | 0 |
| Inaccurate Metering | 11 | 0 | 0 | 0 | 11 | 0.37% | 11 | 0 | 0 |
| Wrongful Disconnect | 163 | 2 | 2 | 0 | 167 | 5.67% | 166 | 1 | 0 |
| High Bill | 36 | 1 | 0 | 0 | 37 | 1.26% | 35 | 2 | 0 |
| Inadequate Service | 241 | 5 | 3 | 0 | 249 | 8.46% | 249 | 0 | 0 |
| Service Extension | 2 | 0 | 0 | 0 | 2 | 0.07% | 2 | 0 | 0 |
| Service Restoration | 193 | 5 | 2 | 0 | 200 | 6.79% | 200 | 0 | 0 |
| Total Commercial | 2,891 | 34 | 19 | 1 | 2,945 | | 2,937 | 8 | 0 |
| Total Commercial Percent | 98.17% | 1.15% | 0.65% | 0.03% | | | | | |
| **Industrial** | | | | | | | | | |
| Billing errors | 279 | 2 | 0 | 0 | 281 | 79.83% | 281 | 0 | 0 |
| Inaccurate Metering | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Wrongful Disconnect | 3 | 0 | 0 | 0 | 3 | 0.85% | 3 | 0 | 0 |
| High Bill | 7 | 0 | 1 | 0 | 8 | 2.27% | 8 | 0 | 0 |
| Inadequate Service | 23 | 1 | 0 | 0 | 24 | 6.82% | 24 | 0 | 0 |
| Service Extension | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Service Restoration | 36 | 0 | 0 | 0 | 36 | 10.23% | 36 | 0 | 0 |
| Total Industrial | 348 | 3 | 1 | 0 | 352 | | 352 | 0 | 0 |
| Total Industrial Percentage | 98.86% | 0.85% | 0.28% | 0.00% | | | | | |
| **Residential** | | | | | | | | | |
| Billing errors | 32,736 | 483 | 352 | 18 | 33,589 | 59.00% | 33,540 | 47 | 1 |
| Inaccurate Metering | 36 | 1 | 1 | 0 | 38 | 0.07% | 38 | 0 | 0 |
| Wrongful Disconnect | 10,097 | 254 | 251 | 22 | 10,624 | 18.66% | 10,620 | 1 | 0 |
| High Bill | 556 | 19 | 23 | 1 | 599 | 1.05% | 598 | 1 | 0 |
| Inadequate Service | 10,324 | 222 | 255 | 9 | 10,810 | 18.99% | 10,805 | 5 | 0 |
| Service Extension | 11 | 1 | 4 | 0 | 16 | 0.03% | 16 | 0 | 0 |
| Service Restoration | 1,187 | 29 | 36 | 0 | 1,252 | 2.20% | 1,252 | 0 | 0 |
| Total Residential | 54,947 | 1,009 | 922 | 50 | 56,928 | | 56,869 | 54 | 1 |
| Total Residential Percentage | 96.52% | 1.77% | 1.62% | 0.09% | | | | | |
| **Total State of Minnesota** | **58,186** | **1,046** | **942** | **51** | **60,225** | | **60,158** | **62** | **1** |
| **Total ST of MN Percentage** | **96.61%** | **1.74%** | **1.56%** | **0.08%** | | | | | |

**Xcel Energy**
**Customer Complaint Report**
**December, 2013**

| | Agree | Compromise | Demonstrate | Refuse | Total | % | Initial Inquiry | within 10 days | Longer than 10 days |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | **Turnaround Days for Closing a Complaint** | | |
| **Commercial** | | | | | | | | | |
| Billing errors | 2,358 | 21 | 14 | 1 | 2,394 | 79.69% | 2,389 | 5 | 0 |
| Inaccurate Metering | 2 | 0 | 0 | 0 | 2 | 0.07% | 2 | 0 | 0 |
| Wrongful Disconnect | 150 | 1 | 4 | 0 | 155 | 5.16% | 154 | 0 | 0 |
| High Bill | 45 | 1 | 1 | 0 | 47 | 1.56% | 47 | 0 | 0 |
| Inadequate Service | 217 | 5 | 1 | 1 | 224 | 7.46% | 221 | 3 | 0 |
| Service Extension | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Service Restoration | 179 | 1 | 2 | 0 | 182 | 6.06% | 181 | 1 | 0 |
| Total Commercial | 2,951 | 29 | 22 | 2 | 3,004 | | 2,994 | 9 | 0 |
| Total Commercial Percentage | 98.24% | 0.97% | 0.73% | 0.07% | | | | | |
| **Industrial** | | | | | | | | | |
| Billing errors | 267 | 1 | 2 | 0 | 270 | 78.49% | 270 | 0 | 0 |
| Inaccurate Metering | 2 | 0 | 0 | 0 | 2 | 0.58% | 2 | 0 | 0 |
| Wrongful Disconnect | 8 | 0 | 0 | 0 | 8 | 2.33% | 7 | 1 | 0 |
| High Bill | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Inadequate Service | 21 | 1 | 0 | 0 | 22 | 6.40% | 22 | 0 | 0 |
| Service Extension | 0 | 0 | 0 | 0 | 0 | 0.00% | 0 | 0 | 0 |
| Service Restoration | 41 | 1 | 0 | 0 | 42 | 12.21% | 42 | 0 | 0 |
| Total Industrial | 339 | 3 | 2 | 0 | 344 | | 343 | 1 | 0 |
| Total Industrial Percentage | 98.55% | 0.87% | 0.58% | 0.00% | | | | | |
| **Residential** | | | | | | | | | |
| Billing errors | 34634 | 377 | 262 | 12 | 35,285 | 62.76% | 35,259 | 22 | 4 |
| Inaccurate Metering | 33 | 0 | 1 | 0 | 34 | 0.06% | 34 | 0 | 0 |
| Wrongful Disconnect | 8,255 | 248 | 220 | 14 | 8,737 | 15.54% | 8,727 | 5 | 1 |
| High Bill | 796 | 14 | 18 | 4 | 832 | 1.48% | 832 | 0 | 0 |
| Inadequate Service | 9,387 | 168 | 178 | 6 | 9,739 | 17.32% | 9,732 | 3 | 1 |
| Service Extension | 9 | 1 | 2 | 0 | 12 | 0.02% | 11 | 1 | 0 |
| Service Restoration | 1,528 | 28 | 23 | 0 | 1,579 | 2.81% | 1,578 | 1 | 0 |
| Total Residential | 54,642 | 836 | 704 | 36 | 56,218 | | 56,173 | 32 | 6 |
| Total Residential Percentage | 97.20% | 1.49% | 1.25% | 0.06% | | | | | |
| **Total State of Minnesota** | **57,932** | **868** | **728** | **38** | **59,566** | | **59,510** | **42** | **6** |
| **Total ST of MN Percentage** | **97.26%** | **1.46%** | **1.22%** | **0.06%** | | | | | |

STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

| | |
|---|---|
| Beverly Jones Heydinger | Chair |
| David Boyd | Commissioner |
| Nancy Lange | Commissioner |
| Dan Lipschultz | Commissioner |
| Betsy Wergin | Commissioner |

IN THE MATTER OF COMMISSION CONSIDERATION OF STANDARDS RELATED TO SMART GRID INVESTMENTS AND INFORMATION UNDER THE FEDERAL INDEPENDENCE AND SECURITY ACT OF 2007

DOCKET NO. E999/CI-08-948

**ANNUAL REPORT**

**INTRODUCTION**

Northern States Power Company, doing business as Xcel Energy, submits to the Minnesota Public Utilities Commission this Annual Smartgrid Report for the 2013 calendar year. We submit this Report pursuant to the Commission's June 5, 2009 Order and March 4, 2011 Notice in this Docket and note that we concurrently filed this report as part of our April 1 Electric Service Quality Annual Report under the Minnesota Rules.

We respectfully request the Commission accept our 2013 report, which includes the following information, in compliance with the Commission's Order and Notice:

- Past, current, and planned smart grid projects, specifically including:
    - A description;
    - Total costs;
    - Cost effectiveness;
    - Improved reliability, security, system performance; and
    - Societal benefit.
- "Smart" functions enabled with existing infrastructure and systems (including what percentage of the utility's meters are currently mechanical, AMR, or AMI, and a sentence on the capability of each);
- Planned or completed system improvements which could affect customer

service, power quality, or service quality metrics;
- Current customer access to data (such as usage or outage data) and how that data educates customers; any planned additional customer access to data;
- Time-varying rates and demand response; and
- The general costs of completed or planned projects (include the costs of changes to billing systems and, if applicable, the early retirement of meters or other equipment) compared to the benefits realized or expected to be realized.

We additionally provide an expanded discussion of Electric Vehicle initiatives, in response to previously-expressed interest in this topic in this docket.

## ANNUAL REPORT

Change is underway in our industry, including technological advances, environmental pressures, and increasing customer expectations. At the same time, operating our system is a complex matter. Therefore, while technology is enabling a smarter and more resilient electric power grid, it is critical that we take a measured approach to harvest the best value for our customers as we identify new and better ways to provide our customers with high quality service, meet increasing environmental requirements, and implement advancements and standardized processes that enhance the overall safety of our operations.

Smartgrid has been described as the integration of a communications network with electrical and natural gas equipment, resulting in overall improved efficiencies, management capabilities, and customer value for the electric and natural gas systems. Our approach to "smart grid" is to learn from the current deployments, both internal to Xcel Energy Inc. and within the industry, and implement initiatives at the pace of value to our customers and operations. In this report, we discuss emerging and ongoing initiatives that relate to "smart" functions and capabilities, as well as initiatives that relate to the changes that are underway in our industry.

### A. New and Emerging Initiatives

We generally discuss our new and emerging initiatives in this section. We discuss our existing intelligent infrastructure and any related 2013 updates in Section B of this Annual Report.

### 1. *Network Communications Strategy*

In our most recent Annual Report, we discussed an effort we had undertaken to define a strategy that would support our current and expected future data needs for our transmission and distribution substations, distribution system automation, natural gas and electric meter reading, and natural gas operations. We noted that the network would need to incorporate multiple levels of communications architecture to securely and efficiently handle the varying data needs of these essential Company operations.

In 2013, we completed the work on our strategy, and developed a framework within which we expect to:

- Ensure security and compliance;
- Leverage our current assets;
- Increase the speed, reliability and access to operational data; and
- Optimize performance monitoring and response while controlling cost.

In developing this framework, we used our knowledge and experience gained from previous deployments, other utilities, and vendors – combined with our objective of fully leveraging the assets we already have in place. We also factored-in the need and challenges associated with preparing the distribution system for the impacts of increasing amounts of Distributed Generation (DG). We answered questions such as: (1) how we manage the complexities of differing communications and equipment infrastructure in the different operating companies; (2) how we ensure the most cost-effective, secure, and value-added network possible; and (3) how we best manage the costs of the system preparations associated with DG, such that they are incurred as close as possible to the actual deployments of DG.

Finally, we recognized that it would be vital that cyber- and physical-security be designed-in, and not added as an afterthought or in a reactive manner. This is especially critical as the technologies used in our operational and information systems converge. In the past, when these areas had very different underlying technologies, there was an additional measure of security provided by the dissimilarity. However, in a converged and standardized environment, only a well thought out and implemented multi-layer security environment will protect our critical assets.

#### a. Our Network Communication Strategy

Our Network Communication Strategy is to update our communications infrastructure in incremental steps based on a common set of design, control, and security principles. These steps will ensure that all field data passes through Hubs (the appropriate *substation* for electric and *pressure regulator* in the case of natural gas) and then to central systems, using the most cost-effective transport, so that in the future, as the Hubs become increasingly intelligent, they can facilitate decisions and actions closer to where the system conditions and events are occurring in the field. Our Network Communications Strategy provides the foundation for our continued implementation of smart technologies that benefit the Company and our customers.

### b. How the New Strategy Differs

Previously, we implemented networks using a *functional* approach, with each network optimized for a particular environment (electric SCADA, gas SCADA, device monitoring, etc.), and typically sending the data from the field to a central system. While this was very effective for the conditions at the time they were constructed, in the future, and particularly with greatly expanded DG on the system, it will be essential for the system to make decisions much closer to the conditions occurring in the field. This is necessary in order to respond in a secure and appropriate manner that protects the rest of the system.

To achieve our new strategy, we need to be able to transport massive amounts of data between numerous field locations while managing our costs. We believe the Hub concept is the most cost-effective way to achieve the levels of field/operational intelligence we now anticipate, as well as to support the further operational intelligence inevitable in our industry – and that will be necessary to identify new and better ways to provide our customers with high quality service, meet increasing environmental requirements, and implement advancements and standardized processes that enhance the overall safety of our operations.

### c. Implementing the Strategy

As part of our strategy work in 2013, we decided that we must first establish a new operational model for network communications that will scale and support business initiatives as they are implemented. The Principles that provide the framework for implementation of our Network Strategy and communications model are as follows:

- Maximize leverage of our assets, while optimizing public carriers;
- Design multilayer security and compliance into the systems from the start;
- Have a single point of control and monitoring (i.e., operations center);
- Hub all field data through substations;
- Use common tools, processes, equipment templates and standards across the enterprise;

- Have a clear governance model that supports cross-functional alignment;
- Design for redundancy, multiuse, and traffic control;
- Maximize cross-functional joint use of facilities; and
- Implement at the speed of value to our customers, with business requirements driving deployment.

With our strategy in place and the structure of a new scalable operating model near completion, we are positioned to execute incremental initiatives that we believe will deliver the greatest value to the Company and our customers. Our initial initiative will introduce a common Network Operations Center (NOC) as a point of control and "incident management" for all operational communications, regardless of which functional area of the company operates them. In parallel, we are also building a common set of tools for planning, designing, monitoring and troubleshooting our communications systems.

We then expect to turn our attention to increasing our communication capabilities with our Hubs, using our own fiber optic assets. This increase in capabilities will help us make more informed, real-time decisions on our electric transmission loads, and increase our effectiveness in predicting faults, rather than reacting to them after they occur. Further, we will work with the operational business areas as they identify opportunities to increase their operational capabilities through increased system intelligence, such as the initiatives discussed in Part 2 of this section, and implement those initiatives at the speed of value to customers. We continue to believe it is important to take a measured, incremental approach to ensure that we balance cost with our need to continue to meet our reliability requirements and provide our customers with high quality service.

d. Expected Benefits

We continue to expect the primary benefit of implementing a comprehensive communications network to be improved efficiency through increased standardization, monitoring and remote control of our system in a secure manner. For example, we expect to consolidate existing field area networks, and leverage our substations as communications hubs, aggregating data from field devices; this reduces the number of separate networks that must be monitored and maintained. Additionally, as with any change, we will take advantage of the opportunity to ensure we are applying the latest security protocols. Our network strategy will continue to be a key foundational program for our continued implementation of smart technologies that benefit the Company and our customers.

### 2. *Enhanced System Monitoring and Control*

We use an Energy Management System (EMS) to monitor and manage the automated devices on our distribution and transmission systems. The Supervisory Control and Data Acquisition (SCADA) element is the primary function of the EMS, and is shared by transmission and distribution. SCADA facilitates real time two-way communications from field devices, and provides Transmission and Distribution Operations the ability to remotely control the flow of electricity during outage and maintenance periods, and collect information about the health of the system.[1]

We have determined that it is necessary to replace our current EMS, which was originally installed in the mid-1990s. The level of customization we have had to do to the system to meet the changing transmission regulatory environment and market structure has undermined the system's reliability, and caused Critical Infrastructure Protection (CIP) compliance and security challenges. The new generation of EMS builds-in CIP as a fundamental part of the design, as opposed to the "bolt-on" approach that we have had to take with our 1990's vintage EMS. In addition, the latest generation of EMS contains many enhanced functional improvements in the basic SCADA function, and improved support for advanced application functions that standardize Operator capabilities and approach, as well as adding additional functionality regarding circuit management.

We selected General Electric's PowerOn Advantage EMS, and are currently developing the database and user graphic displays for the NSP System (NSPM and NSPW transmission, generation and distribution facilities). During 2014, the project will progress through testing, and is expected to go-live in early 2015. We summarize the SCADA functionality of the EMS in Part a below, and discuss some of the advanced functions that the transmission and distribution operational areas are planning and implementing in Parts b and c below.

#### a. SCADA Functionality

In summary, our SCADA system provides information to control center operators regarding the state of the system, and alerts when system disturbances occur, including outages. Every few seconds, it provides system status information, such as normal operating parameters for our generation and substation facilities. It also immediately notifies an Operator of disturbance types (sustained or momentary event), so that system impacts can be assessed and operations can take appropriate

[1] The transmission system is fully automated, and currently, the distribution system is generally automated at the Feeder level and above.

action to restore service to our customers. Our SCADA system also monitors and collects system performance information for Feeders and Substations. This information is used by transmission and distribution operations to ensure the system is safely and efficiently operating within its capabilities. The performance information is also used by planning Engineers to perform load and operating analyses to establish system improvement programs that ensure we adequately meet load additions and continue to provide our customers with strong reliability.

In summary, our use of SCADA technology improves outage restoration, system performance, and planning engineering, which translates to providing safe, reliable, and adequate service to our customers. In our 2012 Annual Report, we noted that we expected to enable and integrate a portion of SCADA information into our Network Management System (NMS, f/k/a Outage Management System or OMS). However, we are now planning to implement an Advanced Distribution Management System (ADMS), which will integrate SCADA, NMS, and several other systems to provide a robust decision support system to assist control center, field, and engineering personnel with the monitoring, control and optimization of the distribution system. We discuss ADMS in Part c of this section.

b. Advanced Transmission Functions

The coverage of the GE EMS is similar to our current EMS, with one minor exception – the real-time energy scheduling and hourly energy accounting for Midcontinent Independent System Operator (MISO) market settlement. These functions tend to be unique to each utility, so are not standard components of EMS software. We are therefore separately developing these functions in parallel with the EMS development in a new consolidated Integrated Energy Management (IEM) system. We believe separately developing these energy accounting functions provides improved ability to focus on the development of core EMS/SCADA and IEM functionality, and increases our ability to manage the risk associated with transitioning to the new EMS/SCADA system.

A couple of the advanced applications we are developing in conjunction with the EMS/SCADA system are Network Connectivity Analysis (NCA) and Operator Training Simulator (OTS). The NCA creates a model of the electrical system connectivity every five minutes and tests 500 scenario contingencies. This gives Operators and opportunity to see any voltage excursions and any lines that may be overloaded – allowing them to take action to avoid an event occurring on the system.

The OTS is able to simulate events, including past actual events for training purposes. We use OTS as part of our annual training and reliability drills – and note that we used this system in conjunction with our participation in the North American Electric Reliability Corporation (NERC) GridEX II national grid security exercise in November 2013. GridEX II was the largest, most comprehensive effort addressing security by the electricity industry to-date, and included over 234 organizations with more than 2,000 individuals as well as government agencies such as the Department of Homeland Security, FBI, and Department of Energy (DOE). It was a simulation of a coordinated cyber and physical attack on the bulk power system, impacting corporate and control networks and concurrent physical attack that degraded reliability and threatened public health and safety.[2]

The forecasted NSP System costs of the new EMS/SCADA and IEM are approximately $12.4 million.

### c. Advanced Distribution Management System

Also concurrent with development of the new EMS/SCADA, we are planning an Advanced Distribution Management System (ADMS) project, which is the distribution equivalent to the advanced transmission functions discussed in Part b above. One of its functions will be to integrate with the EMS/SCADA to provide an integrated operating and decision support system to assist control room, field personnel, and engineers with the monitoring, control and optimization of the distribution system. While some elements of the transmission and distribution system benefit from an integrated SCADA, the ADMS SCADA integration will increase the ability of distribution operations to manage and monitor those elements that are unique to the distribution system.

While our current distribution SCADA capabilities go to the Feeder level, with ADMS, we will be able to implement automation to the Tap level on some portions of our system.[3] In addition to the enhanced SCADA capabilities, and similar to the advanced application capabilities for transmission, the ADMS will enable the Company to develop applications that aid in managing the complex interactions that are part of both planned and unplanned outage events, feeder switching operations, and device loading.

We are initially investigating two applications enabled by ADMS that we believe will provide the Company and our customers the greatest value: (1) The FLISR application locates faulted sections of the system (Fault Location) then automatically

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[2] *See* http://www.nerc.com/pa/CI/CIPOutreach/Pages/GridEX.aspx for additional information.
[3] Taps are one level below Feeders on the Distribution system. In general, Feeders serve thousands of customers and Taps serve hundreds.

isolates the faulted section (Isolation) and restores power to as many customers as possible (Service Restoration), resulting in reduced outage durations for a portion of customers;[4] and, (2) Integrated Volt Var Optimization (IVVO). Initially IVVO will replace the existing controls to reduce system losses by controlling capacitor banks to improve power factor on feeders. Its controls will also ensure distribution feeder voltage for improved power quality. Finally, it will be capable of integration with voltage regulation equipment, which can then enable voltage reduction to reduce loading during system peak demand and emergency loading situations. We are continuing to explore these applications enabled by the ADMS, and will implement them at the speed of value to our customers.

There are many benefits associated with ADMS to be realized with greater future investments in intelligent electric field devices including *reliability improvements* such as faster restoration times, improved storm response and restoration, and improved outage and restoration information; *power quality monitoring* to quickly identify problems and maintain compliance and equipment performance; *safety measures* such as ensuring distributed generation isolation during outages, decreases in drive time and avoided trips, and improved tagging and switching management; *operational efficiencies* such as reduced fault investigation time, reduced crew time for fault location, isolation and restoration, improved situational and operational awareness, and optimized switching; *conservation and energy efficiency,* such as reduced peak demand and reduced electrical losses; and, *asset optimization* such as improved analytics and remote diagnostics of intelligent equipment.

The NSPM 2013 costs associated with the ADMS planning stage were approximately $77,000 in Capital and $30,000 in O&M.

### *3. Outage/Network Management System*

In 2012, we completed a significant upgrade of our Network Management System (NMS), which is the system we use to manage planned and unplanned distribution system outage events. Among other things, the upgrade allowed for further leverage of our Automated Meter Reading (AMR) system by integrating our ability determine whether a customer has line-side power directly into NMS. We do this by "pinging" the meter by accessing a field controller that is part of our AMR system, which polls the individual customer's meter to determine whether it is energized.

[4] NSPM currently has FLISR capability on certain segments of the system where "teams" of switches communicate with each other to perform the function. FLISR controlled by ADMS will provide enhanced capabilities. We discuss current system intelligence in Section B of this Report.

The pinging itself eliminates crew trips that would have otherwise resulted in an "okay on arrival" outcome. During 2013 in Minnesota, we were able to use this capability to verify that the customers associated with more than 1,000 outage jobs were energized, then cancel those jobs – making this tool a proven critical resource in restoring service to our customers as efficiently and quickly as possible. The integration of this functionality directly into NMS also improved our control center efficiency, as previously, employees had to use a separate system to perform the pinging.

As noted in Item 2 above, the NMS, along with a number of other systems will be integrated into our ADMS, which we expect will further improve our efficiency and service to customers.

### 4. *Solar on Network Pilot Results*

Secondary distribution networks are used in downtown Minneapolis and St Paul to serve high-density loads with high reliability. The control systems for these networks rely on power flowing toward the customer, a state that can be reversed with distributed generation. While many utilities have disallowed solar/photo-voltaic (PV) distributed generation (DG) on networks for this reason, we approved two installations in 2012 on a pilot basis. We, however, required specific controls be installed to ensure directional power flows remained adequate to forward-bias the controlling relays.[5] The pilot PV units and their controls have performed well.

Concurrent with this pilot, Xcel Energy engineers created a Network Interconnection Guideline to address the technological concerns while maximizing permissible PV DG. The result provides for somewhat relaxed requirements for future installations. While less restrictive than the initial requirements, the modified requirements are essential to maintaining the integrity of the network. We will be presenting the findings from this pilot in spring 2014 to representatives from Minneapolis, St. Paul, and the Minnesota Department of Commerce.

### 5. *SolarTAC: Solar-2-Battery and Community Energy Storage*

Xcel Energy and EPRI are currently evaluating two battery energy storage systems at one of the largest dedicated solar research facilities in the United States: the Solar Technology Acceleration Center (SolarTAC) in Aurora, Colorado. Battery energy storage may be a key to increasing the reliability, efficiency, and value of variable renewable generation resources. In particular, the proliferation of solar PV is prompting utilities such as Xcel Energy to investigate effective grid-management

[5] If forward-bias of the relays is not maintained, the protectors open, which decreases reliability.

techniques for handling high-penetration solar conditions. Both of these multi-year research efforts aim to discern the technical and economic costs and benefits of utilizing energy storage for a range of transmission- and distribution-connected solar applications such as time shifting/peak shaving, ramp rate limiting, power smoothing, and voltage regulation.

*Solar-to-Battery*. Solar-to-Battery (S2B) is evaluating a 1.5 MW/1.0 MWh advanced lead acid system produced by Xtreme Power. We are assessing their Dynamic Power Resource unit interconnected with a number of concentrating PV arrays for its ability to perform multiple grid support operations at a larger scale. The arrays produce up to 780kW on the local distribution circuit. The support operations we are assessing have the potential to provide economically valuable grid benefits, including distribution upgrade deferrals, system capacity, energy time-shifting, and distribution voltage support.

*Community Energy Storage*. The Community Energy Storage (CES) project is demonstrating a 25-kW/50-kWh Sodium-Nickel-Chloride battery manufactured by FIAMM SoNick that is affixed to a model solar neighborhood. The solar neighborhood consists of PV arrays, load banks, metering equipment, and other components. We are studying the single-phase AC unit to assess its ability to provide impactful distribution applications at the residential customer level. The system's interconnection with the solar neighborhood along with a dedicated transformer, is intended to simulate real-world conditions that can more accurately portray this battery's various modes of operation.

Both the S2B and CES projects are first-of-a-kind. Currently, the units are successfully operating and generating data for analysis. However, we have encountered unanticipated challenges that have delayed testing. Efforts going forward will focus on executing test plans that we have learned work within the battery systems' limitations, and also discovering their full potential to provide valuable energy storage services at the neighborhood and substation/mid-feeder levels.

### *6. High Definition LiDAR Survey and Line Modeling*

Light Detection and Ranging (LiDAR) survey consists of flying a helicopter over transmission lines with a laser to capture the existing conditions in the right-of-way. Additional sensors capture multiple images that are used to create an orthographic imagery, very similar to what is shown in Google Earth, and oblique images, very similar to what is shown in a Google Street View. We use this data to create an accurate GeoReferenced model of the transmission line and other objects in the right-of-way. From this model, we are able to verify electrical clearances, respond more quickly to storm damage, order materials, and design new construction, which reduces costs and improves reliability of the system.

LiDAR survey provides greater data quality and density than traditional survey, conducted on the ground with a field crew using optical instruments and GPS. In a single aerial pass, LiDAR can capture high definition data for a target corridor up to 300 feet in width, compared to a traditional ground survey that generally acquires a 50 to 100 foot width.

The traditional ground approach requires that we coordinate with landowners for access, and takes several months to survey 30-60 line miles, which we can do with LiDAR in a single day with no burden to landowners. However, the greatest advantages of LiDAR over traditional survey are cost and timeframe. The 2013 cost per mile for LiDAR was $800, versus a traditional survey cost of $2,000. This translates to a 2013 savings of $1.4 million.

We use the same LiDAR data to model the vegetation in the corridor to identify hazard trees, create routine maintenance work plans, and prescribe wildfire protection efforts, which result in reduced costs and increased reliability. Another major benefit the High Definition models are to update our Geographic Information System (GIS) with high accuracy data greatly enhancing the understanding and management of our system.

In 2013, we performed LiDAR on approximately 1,200 transmission line circuit miles in Minnesota. To-date, we have acquired LiDAR data on approximately 3,250 of the 4,000 miles of transmission lines owned and/or operated by Xcel Energy in Minnesota. We plan to continue our efforts to LiDAR survey and model lines as business needs arise, with a goal of ultimately having all transmission lines modeled based on LiDAR acquired data.

### 7. *Advanced Wind Production Forecasting System*

In 2013, Xcel Energy, already the nation's number one wind energy provider, proposed adding a total of 1,900 megawatts of additional wind resources – a 40 percent increase companywide – with 750 megawatts of that total planned for the NSP System. Ensuring that renewables are efficiently integrated into our operations is an important priority for Xcel Energy.

In 2009, Xcel Energy engaged in a multiyear R&D partnership with the National Center for Atmospheric Research (NCAR) to develop what has become WindWX –

one of the most advanced wind-production forecasting systems in the world. We now contract with Global Weather Corp. (GWC), an affiliate company of NCAR, to continue to host and maintain the system. The present state WindWX system uses real-time, turbine-level operating data and applies complex meteorological algorithms to forecast the amount of wind power that will be produced at all the wind farms throughout the Xcel Energy service territory.

The forecasts, now available worldwide, are designed to help utilities make better commitment and dispatch decisions, including opportunities to power down less-efficient power plants when sufficient winds are forecasted to help meet customer electric demands, and to optimize their market offers in organized markets such as MISO.

In 2013, we completed two full years of operational deployment of WindWX, and have been able to reduce the forecasting error by over 40 percent, and estimate the savings to NSPM customers at approximately $15.4 million through 2013. Building on previous project successes, Xcel Energy, NCAR, and GWC initiated a third phase of project work during 2013 to further enhance the sophistication of the technology. In this stage, we seek to improve short-term forecasting, focusing on ramping and extreme weather events, and introducing probabilities into the forecasting process.

Over the course of the next two years, NCAR scientists and engineers will develop custom forecasting systems to enable Xcel Energy to improve reliability by better anticipating sudden ramping changes in wind production, as well as better prepare our short-term planning when extreme weather conditions, such as icing, threaten our systems and impact the generation capability of the wind turbines.

Our partnership with NCAR and GWC has gone a long way to help us meet our priority of efficiently integrating renewables into our operations, and we expect our use of the WindWX system to grow the cost savings to our customers.

## B. Existing Infrastructure and Programs

Over time, we have implemented a number of strategic projects that have improved the intelligence of the NSPM distribution system that positively affect customer service, power quality and reliability. However, as of now, we do not expect any direct results on our existing service quality metrics. The Network Communications Strategy we discuss in Section A will form the foundation that will allow the Company to expand and further leverage the intelligence of the system, which will allow us to further increase our effectiveness and service to customers. In this section, we discuss highlights of ongoing projects and intelligent features of our existing infrastructure that we previously implemented, as summarized below:

- *Automated Switch Teams* – automatically restores electric service to a portion of affected customers after an event, reducing the outage time.
- *Remote Fault Indicators* – reduces outage time by enabling restoration on un-faulted portions of the circuit without first making a site visit.
- *Smart Substation* – allows faster restoration times and provides increased system reliability from implementation of modernized technology and the decision-making capabilities it facilitates.
- *SmartVAR* – improves power quality and availability, and reduces system losses, which ultimately reduces fuel costs for all customers.
- *MISO Smart Grid Project* – improves power system reliability and "visibility" through broad-based system monitoring and control.
- *Wind-to-Battery* – could reduce the impacts of wind and potentially solar variability, allowing for improved integration of renewable energy into the grid.

In addition, as discussed in Section A, our NMS now leverages our AMR infrastructure, which has resulted in Company efficiencies and improved service to our customers through more efficient use of our crews.

### 1. *Automated Switch Teams*

We have installed automated switch teams on portions of our distribution system. These teams automatically sectionalize and isolate the faulted portion of a circuit. After sectionalizing and isolating the fault that is disrupting power on the system, power is restored to the un-faulted portion of the circuit, restoring power to customers on that portion of the circuit. While not being totally "self-healing," this does allow the maximum number of customers to be automatically restored after an event, leaving fewer customers with a sustained outage.

NSPM now has 74 of these switches operating in Minnesota. We deploy these based on circuit length and customer count, and are currently installing three to five additional switches per year. In 2012, NSPM launched a program to replace all the Remote Terminal Units on switches. This will bring our switches and operating systems to the current available versions, better ensuring proper operation and continued support by the vendor. This project was completed June 1, 2013. Additionally in 2013, we implemented a tracking tool to track the operating status of the teams, and how many Customer Minutes Out (CMO) have been saved by the switches.[6] In 2013 these switches saved over 12 million CMO, which is a direct improvement to our customers' reliability experience.

### 2. *Remote Fault Indicators*

These devices identify high current flow, indicating that there is a fault downstream of the device, which then uses a cellular phone to report that it has seen fault current pass through it. This information is then displayed to the System Operator, who couples it with other information, allowing us to begin restoring power to customers without first physically patrolling the area.

This greatly reduces customer outage time, and enables restoration to begin on the un-faulted portions of the circuit. We deploy these devices at key points on the distribution system at switches and lines that cannot be readily patrolled. NSPM currently has 125 of these devices in use. These devices were installed in the early 2000's. The devices and this technology are reaching the end of their life, so as devices fail, they are being removed from service. We currently are searching for a viable replacement.

### 3. *Smart Substation*

This leading-edge demonstration project retrofits the existing Merriam Park substation with cutting-edge technology for remote monitoring of critical and non-critical operating data. The project was to have also included an analytics engine that processes massive amounts of data for near real-time decision-making and automated actions. During 2011, we ended our efforts with the vendor that provided this equipment because they were not dedicating sufficient resources toward getting the necessary functionality up and running. So, while we have more robust operating data and increased data capabilities, instead of it being automatically generated, we must acquire the required data for strategic decision-making. We continue to install leading edge technology in our substations that includes capabilities for information storage and other features including Phasor Measurement Units, which provide highly accurate electrical system state to the operators. This operating information will improve our post-event analysis and system state estimation capabilities in our new Energy Management System that we expect to implement in 2015.

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[6] CMO equals the total minutes of a sustained outage event multiplied by the number of customers impacted.

### *4. SmartVAR*

In 2010, we implemented a SmartVAR Management pilot program associated with our Energy Innovation Corridor in St. Paul, MN (*See* Docket No. E002/M-09-1488). This pilot project tested the effectiveness of "smart," or automated, capacitor controls that have two-way communication ability to manage reactive power (Voltage Ampere Reactive power or VARs) on a portion of our distribution system. The automated capacitor control program is fed information from our SCADA system, and based on this information, the capacitor control system switches capacitors on and off to manage reactive power levels on the distribution Feeder. Managing reactive power reduces system losses by increasing system efficiency.

The results of the pilot were very positive, providing improved power quality and availability to customers, as well as reducing emissions through improved line loss reduction. Based on the positive results from the pilot program, in 2012 we began a five-year project to replace all (approximately 2,100) current capacitor controls in NSPM with controllers capable of two-way communication. Through 2013, we have replaced 1,010 controllers and are scheduled to replace an additional 360 controllers in 2014, with similar levels of annual replacements occurring through project completion (December 31, 2016). We note that we provide quarterly and annual updates regarding this initiative in Docket No. E002/M-09-1488. The cost incurred during 2013 was approximately $900,000.

### *5. MISO Smart Grid Project*

In March 2010, the MISO launched a program to install more than 150 high-tech monitoring devices across its footprint that would monitor the state of the electrical grid 30 times each second at these points. The objective for the project is to improve power system reliability and "visibility" through broad-based system monitoring and control.

#### a. Project Overview

The devices being installed by the Company and other MISO entities are called Synchrophasors. These devices provide precise measurements of what is going on at particular points or segments of the transmission system, which is "time-synced" to the GPS Satellite System, synchronizing the system information across all MISO and other entities nationally. While these devices were beta-tested as stand-alone devices in the 1990s, they have since matured to commercial grade, and their use is further enabled by improvements in network communications capabilities necessary to handle and provide consistent, high-volume data.

This initiative is being conducted in phases, and will generally be on the highest voltage portions of the transmission system. Phase I began in October 2011 and ended March 31, 2013. During that phase, we installed a total of 27 devices in nine substations, 22 of which were installed in eight different substations in Minnesota. Phase II began January 1, 2013 and will end March 31, 2014. During Phase II, we expect to install a total of 30 devices in 10 different substations, again, with the bulk of these devices (28) installed in Minnesota substations (9). As of December 31, 2013, we had installed all 28 of the devices planned for Minnesota as part of this Phase.

MISO is partially funding this initiative through a DOE stimulus grant, with total project costs being funded through the MISO tariff. Therefore, the costs the Company is incurring directly will be reimbursed by MISO. We estimate our total direct costs for this initiative, subject to reimbursement from MISO, will be approximately $3.3 million; to-date, we have incurred approximately $2.8 million associated with our participation in this initiative.

b. Synchrophasor Functionality

Synchrophasors capture and provide the following data *30 times per second*: 3-phase current, 3-phase voltage, positive sequence voltage, positive sequence current, frequency, and phase angle data. As noted earlier, this information is time-synced, so all of these devices, regardless of their location or the entity whose system they are installed on, are "in sync." Comparatively, on the portions of our transmission system that do not have Synchrophasors installed, we receive more limited information, generally on a *4-second* basis: voltage, VARs, and total MW. Further, this information is not time-synced across MISO entities.

c. Benefits of Synchrophasor Technology

Although there are many expected benefits of this technology, an immediate benefit from installation of this technology is a "real-time" gauge of the stress and balance on the transmission system. Without this technology, we must conduct periodic offline studies to determine the operating guidelines for each line. These guidelines provide the parameters that system operators must operate within to ensure that the grid remains stable. Conversely, Synchrophasors measure phase angle data 30 times per second, informing the operators in real-time the level of balance on the system. This real-time information allows the operators to more closely monitor and take more informed actions to balance the system.

Other benefits include improved "event" analysis. By receiving multi-faceted information regarding the power flowing through the system at a given point in time *30 times per second* – synchronized across all entities – we (and others, such as NERC) will be much better-equipped to understand, analyze, and learn from disturbances or other system events.

d. Next Steps

As of December 31, 2013, we have installed 57 devices in 19 substations on our transmission system, 50 of which are in 17 substations in Minnesota. We will be working toward further leveraging of this data into our systems, which will allow us to further assess and realize the expected benefits of this technology.

*6. Wind-to-Battery Storage*

The Wind2Battery (W2B) system became operational in late 2008. This project tested a one-megawatt battery energy storage system connected directly to a wind farm in an effort to store wind energy in batteries and return it to the grid. Fully charged, the battery could power 500 homes for more than seven hours. Benefits include expected long-term emission reductions from increased availability of wind; reduction of impacts of wind variability; modernization of the grid to allow for easier integration of renewable energy sources; and allowing us to meet Minnesota Renewable Energy Standard legislative requirements. *Cost:* Approximately $4 million.

The W2B project has provided us with experience and information that will allow us to assess and improve upon the viability of scaling-up battery storage on our system as more wind power is added to meet the renewable policies in the states we serve. The original testing has now been completed, and the results of that testing can be found in our final report filed on January 10, 2012 in Docket No. E002/AI-09-379.[7]

We note that during much of 2012 the battery system was shutdown as a precautionary measure at the recommendation of NGK (the battery manufacturer), after we learned of a fire at a similar NGK installation in Japan in 2011. NGK has since conducted a thorough analysis of the situation and its root causes and redesigned the battery modules. All battery modules at our Luverne, MN installation were replaced with brand new modules of the new design, which was completed in November 2012.

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[7] A public version of the report is also available at: http://www.xcelenergy.com/staticfiles/xe/Corporate/Renewable%20Energy%20Grants/Milestone%206%20Final%20Report%20PUBLIC.pdf

Following completion of the battery module replacements, the energy storage system was placed back in service providing regulation services to store, control and dispatch energy when needed for supply or transmission stability purposes. Late in the third quarter of 2013, the Company initiated some upgrades to the communication system, which took the battery out of service. At the time of this report, we are still completing these upgrades at the site, and expect to be back online soon, at which time we expect to continue to operate the battery in the MISO market.

## C. Automated Meter Reading

Our current metering strategy is to leverage our existing Cellnet Automated Meter Reading system and improve related processes. In addition, we continually look for opportunities to leverage existing rates and AMR infrastructure to pilot future programs. It is also our intention to assess how we might utilize the Network Communications Strategy efforts discussed in Section A of this report to improve our cost effectiveness and the viability of various Advance Metering Infrastructure (AMI) technologies in the future.

Currently, our AMR system collects on-cycle automated reads for billing purposes for residential meters and demand meters. It also collects daily reads that can be used for customer account analysis, if needed.[8] In contrast to AMR, AMI technologies facilitate real-time, on-demand meter reads and other communication with the meters.[9] Among other things, AMI systems can perform remote service disconnects and reconnects, allow automated net metering, transmit demand-response and load-management messages, and interrogate and control distribution-automation equipment.

Below we provide a chart showing the breakdown of our existing meters by electric/natural gas, customer type, and whether they are AMR-capable.[10] We do not currently have any AMI metering installed in Minnesota.

[8] The data collected for residential and small commercial customers is typically aggregated kWh consumption. For all customer types, residential, small commercial, commercial or industrial, the type of data collected can be one or a combination of kWh aggregated consumption, on-peak/off-peak kWh, daily peak demand, daily demand off-peak/on-peak readings, and/or reactive energy readings depending on the specific tariff/rates applicable to the customer.
[9] The Federal Energy Regulatory Commission (FERC) defines AMI as a metering system that records customer consumption hourly or more frequently and that provides for daily or more frequent transmittal of measurements over a communication network to a central collection point.
[10] Data as of December 31, 2013.

**Existing Meter Counts and Capabilities**
**State of Minnesota**

| | | AMR-Capable? | | |
|---|---|---|---|---|
| | **Customer** | **Yes** | **No** | **Total** |
| **Electric** | Residential | 1,125,763 | 101 | 1,125,864 |
| | Commercial | 121,885 | 1,089 | 122,974 |
| | Industrial | 5,129 | 3,100 | 8,229 |
| | Government | 3,040 | 404 | 3,444 |
| **Gas** | Residential | 413,891 | 1 | 413,892 |
| | Commercial | 34,655 | 391 | 35,046 |
| | Industrial | 323 | 179 | 502 |
| | Government | 649 | 26 | 675 |
| | ***Total*** | ***1,705,335*** | ***5,291*** | ***1,710,626*** |

Our current AMR system, which provides automated meter readings for the majority of our customers, has resulted in reduced meter reading costs and resource requirements, and in most cases, more consistent meter reading performance as compared to manual meter reading. In addition, our AMR system provides additional information to the billing, meter reading, and metering departments to better analyze and respond to billing inquiries and potential meter equipment issues. And, as noted in Section A.3 above, we are leveraging our AMR system, which has enhanced our outage management and service restoration capabilities.

## D. Customer Access to Data

We collect, use, maintain and share customer-specific data to provide regulated natural gas and electric service to our customers. We are committed to providing our customers with access to their information, protecting our customer's information, and being transparent about our data privacy practices. In this section, we outline the information, programs, and tools we currently offer to our customers, which we believe empowers them to both control and use their information in a number of ways. We note that we are participating in the Commission's proceeding in Docket No. E,G999/CI-12-1244 that is examining the privacy practices of Minnesota's energy utilities. The customer information access and programs we discuss in this section are not generally the focus of that proceeding. We include, however, an overview of our customer data privacy policy as Part 5 of this section.

### 1. *Usage and Billing Data*

Residential and small business customers, as well as all public sector customers, are able to view their energy usage through the My Energy portal in My Account on xcelenergy.com. In the portal, customers can track their energy usage and bill information over time, as well as see how their energy consumption compares to other customers similar to them. Customers can access their historical data through Green Button Download My Data functionality, which provides up to five years of monthly usage information in either xml or csv format. Larger customers can view their usage data and account information at xcelenergy.com through My Account, where up to 24 months of usage history can be retrieved in csv format. Customers can also call to request historical usage information, which will be returned in spreadsheet format.

### *2. Outage Data*

At xcelenergy.com/outages, we provide customers the ability to view current electric outages on a map; we also provide the start time of the outage, as well as an estimated restoration time. We launched this customer information tool in March 2010. The information provided by this website tool stems from our NMS, and is updated every ten minutes. Customers can zoom into an approximate 2.5 mile area on the map; it does not provide specific premise/address information. The maps provide aerial pictures, a legend indicating the number of customers impacted, and other detailed information to aid customers and the media in understanding the scope and scale of outage events.

### *3. Xcel Energy Mobile Access*

In November 2012, Xcel Energy launched a mobile website (*m.xcelenergy.com)* for customers to access Xcel Energy on their smart phones. This mobile website offers all customers visibility to products, services, energy-saving ideas, safety tips and outage information in another convenient, timely, easy-to-use manner via their smart phones. Customers accessing Xcel Energy's main Internet site (xcelenergy.com) from smart phones, are redirected to the mobile website, with an option to instead view the full website.

The main menu on the mobile homepage provides:

- Pay Your Bill
- Outages
- Rebates
- Energy Saving Tips
- Call Before You Dig

- Contact Us
- Colorado Solar
- Link to xcelenergy.com website
- Links to Xcel Energy Facebook, Twitter, YouTube, Blog, Pinterest, LinkedIn

We have identified the most common tasks customers look to complete with us and we have made and continue to make enhancements to ensure these tasks can be performed in a preferred channel through a streamlined delivery. We believe our addition of mobile access to information and ability to interact with the Company meets our customers' expectations and provides significant value.

### 4. *Energy Feedback Pilot Program*

Energy Feedback transitioned from pilot to program in 2013. The program provides participating customers information about their energy consumption and about how that consumption compares to similar homes nearby. This is an opt-out program that uses the participant and control group to determine how much energy was saved by the participants. As part of the transition from pilot to program, 100,000 new customers were added to the program. Currently the program follows savings from four groups: the original participants, customers who receive only email notifications, participants selected to "refill" the original group, and the newest expansion group.

As mentioned above, the Energy Feedback Pilot became a program in 2013. As part of this transition, the program went from reporting 100 percent of savings to using the Average Savings Method (ASM), under which, the life is assumed to be 1.0 years and energy savings are reduced by 2/3 annually via a Behavior Adjustment for utility goal calculations.

Late in 2013, we filed for and received approval from the Department of Commerce to add Online Energy Feedback as a new measure within the existing Energy Feedback program. These tools and services allow any customer to login through My Account at xcelenergy.com, and see My Energy comparisons to peer energy use, and an online usage analysis that evaluates equipment and savings suggestions similar to an online audit. This tool encourages goal setting and tracks action customers take to save energy and how they are performing against goals. Making these tools available to all customers encourages everyone to engage in behavior-changing activity to save on energy and help the environment. In addition to empowering customers with more interactive tools and services, we will begin to monitor and measure savings attributable to online energy feedback in 2014.

Energy Feedback did not meet its gas and electric savings goals in 2013. We believe this is due in large part to an underestimation of the time needed to ramp up the savings behaviors of the new customer group, which comprised over 50 percent of total participants. The achievement gap is larger for natural gas; as we have noted, our filed gas goals were based on savings projections that were higher than realistically achievable. Finally, the savings reported also reflect an 11-month time frame as opposed to a full calendar year. Because savings are determined using actual customer data and because of the large number of participants, data is unavailable until at least three weeks after the reporting month ends. For this reason, we decided to close the program year with November 2013 results. The 2014 program results will include savings from December 2013, along with a minimal 2013 "true-up" that the vendor calculates. This true-up adjusts savings to account for behavioral program savings that could be attributed to stand-alone rebate program participation.

In addition to the residential program, we plan to launch a Business Energy Feedback Pilot in 2014. This pilot will test the responsiveness of the small/medium business market to behavior-changing recommendations appropriate for the customer's business segment. We will measure energy savings associated with these Business Energy Feedback reports to determine whether they offer a cost-effective opportunity for additional energy savings and engagement in this traditionally hard-to-reach market sector.

### 5. *Customer Data Privacy Policy Overview*

As we noted previously, we collect, use, maintain and share customer-specific data to provide regulated utility service. Absent a legal requirement, we will not further distribute customer-specific data for secondary purposes without first obtaining the customer's explicit consent. We believe that our data practices appropriately balance our business needs with the customer's interest in controlling access to their unique information. The data access tools we discuss in this section demonstrate ways that we empower our customers to control and use their energy usage data in several ways.

We are active participants in matters at both the federal and state level addressing issues of customer privacy and data access, including the Commission's current inquiry in Docket No. E, G-999/CI-12-1344. We believe that it is important to have an open dialog on these issues, as concerns about privacy can negatively impact our relationship with our customers, regulators and other stakeholders. Our goal is to be the trusted provider of our customer's energy needs, and we recognize that maintaining appropriate data practices is an important aspect of that trust. We look forward to working together with other stakeholders to codify appropriate privacy standards for utilities in Minnesota.

Our current privacy practices are further outlined in our Privacy Policy, which is available through a link at the bottom of every page on our website (xcelenergy.com).

## E. Time-Varying Rates and Demand Response

Time-varying rates separate an average standard rate into a lower "off-peak" rate and a higher "on-peak" rate. This provides customers with an economic incentive to shift energy use from higher-cost "on-peak" hours into lower-priced "off-peak" hours. Demand response rates provide a rate discount as an incentive for customers to agree to curtail their usage during Company-declared system-peak conditions.

### *1. Time-Varying Rates*

Xcel Energy offers time-varying rates to both residential and business customers. The residential Time-of-Day (TOD) rate is optional. TOD rates are mandatory for business customers with peak loads of 1,000 kW or greater, and are optional for other business customers. We discuss our various TOD rates below.

#### a. Residential Time-of-Day Rate

As an optional alternative to Residential Service, Residential TOD Service rates apply to all household energy usage. This optional service provides a discounted rate to customers for their energy used during off-peak hours. The off-peak rate is approximately one-third of the standard residential base rates, while the on-peak rate is approximately twice the standard rates, but varies based on season and heating type.

This TOD rate option typically reduces electric bills for customers that use at least 650 kWh/month, and that have electric heat or water heating or other major loads that can be shifted off-peak. To experience savings on this rate option, customers must use approximately 65 percent or more of their overall electric usage during off-peak periods, which are 9:00 PM to 9:00 AM weekdays and all hours on weekends and specific holidays.

A three-month trial period for Time-of-Day service is available to residential customers. Customers that choose to return to non-Time-of-Day service after the trial period are responsible to pay a charge of $20.00 for removal of the Time-of-Day metering equipment.

After the trial period, customers electing the TOD rate option must remain on the rate for 12 months. Currently, 392 Minnesota customers are enrolled in our residential TOD option.

As we also discuss in Section F below, we continue to promote our existing TOD rate options to electric vehicle (EV) drivers to encourage charging during off-peak times, ensuring they are aware of the opportunity to reduce bill impacts associated with vehicle charging. The Company may also benefit from our EV customers participating in the TOD rate options, in that it may help mitigate potential stress to the distribution system caused by EV charging.

### b. Business Time-of-Day Rates

We have three Business TOD Rate options that provide discounted rates to non-residential customers for their energy used during off-peak hours.

- *Small General TOD.* This rate option is available to non-residential customers with a maximum load less than 25 kW. Customers may elect this TOD rate for a trial period of three months. If a customer chooses to return to non-TOD service after the trial period, there is a $25 charge for the removal of the TOD metering equipment. We currently have 10,001 customers on this rate.

Demand-metered non-residential customers that have a peak load of 1,000 kW or greater for at least four of the past 12 consecutive months must take a TOD service schedule – either General Service TOD or Peak Controlled TOD. Customers choosing the Peak Controlled TOD rate receive a demand charge discount in exchange for agreeing to control their demand to a pre-determined level when Xcel Energy calls for such control. Additional applications of the General TOD and Peak and Energy Controlled TOD services are as follows:

- *General TOD Service.* Non-residential customers with demand metering that are not required to be on a TOD rate may elect to take TOD service. We currently have a total of 3,850 customers on this rate.
- *Peak and Energy Controlled TOD.* This rate is available to non-residential customers with a minimum controllable demand of 50 kW, who agree to control their demand to a pre-determined level when Xcel Energy calls for such control. We currently have a total of 2,022 customers on these rates. Customers on these rates receive up to a 54 percent reduction on the demand charge for their controllable load, at the secondary voltage service level. Under the Energy Controlled rider option, customers also receive a reduced kWh rate on their controllable load, in exchange for more hours that the Company can potentially interrupt their load.

c. Limited Off Peak Rate

The Limited Off Peak rate option offers a reduced energy rate to residential and small commercial customers for specific electric equipment operating between 10:00 PM and 6:30 AM, seven days a week. Two installed electric meters allow for the standard kWh rate to be applied to energy recorded on the first meter for regular household usage while the lower rate is applied to energy recorded on the second meter for specific appliances. Customers with electric thermal storage heating, radiant floor heat, or electric water heaters that store electric heat during off-peak periods for use during the next day's on-peak period will benefit the most.

To take advantage of savings that this rate offers to certain customers, customers must pay an additional monthly service charge for the additional metering and billing requirements. Also, customers are subject to a $0.26/kWh charge for any energy use that is served through the off-peak meter that is outside the authorized off-peak period. Customers must remain on this rate for a minimum of twelve months, unless they transfer to another interruptible service rate. Currently, 465 Minnesota customers (380 residential, 85 commercial) are enrolled in the Limited Off Peak rate option.

d. Real Time Pricing Service

The RTP rate option is available to customers with a minimum peak load of 1,000 kW. RTP service includes energy charges for eight different types of days, with six different pricing periods within each day-type. RTP customers select a contract demand level for demand billing and pay an additional energy charge for loads over that level except for the two lowest priced day-types. This design provides pricing incentives that are closely matched to both high and low cost conditions. There is currently one customer with two accounts enrolled in this program.

*2. Demand Response Programs & Interruptible Rates*

Xcel Energy has three electric load management programs as follows: (1) Electric Rate Savings; (2) Saver's Switch; and (3) Energy Controlled Service. These programs provide customers rate discounts for reducing electric load on days having peak demand for electricity. The table below identifies the current contracted customer load and customer participation for each program.

## Demand Response and Interruptible Rates Participation
## State of Minnesota

| Program | Controlled Load (MW) | Customers |
|---|---|---|
| Electric Rate Savings Program | 488 | 2,025 |
| Saver's Switch-Business Customers | 45 | 15,917 |
| Saver's Switch-Residential Customers | 229 | 376,858 |
| Energy Controlled Service | n/a | 3,092 |
| ***TOTAL*** | ***762*** | ***397,892*** |

*Data as of December 31, 2013.*

a. Electric Rate Savings Program

The Electric Rate Savings Program is marketed as the Peak Controlled and Energy Controlled Rates to customers. Participants receive a monthly discount on their demand charges in return for reducing electric loads when notified by Xcel Energy. Customers on the Energy Controlled rate also receive a reduced kWh rate on their controllable load, in exchange for more hours that the Company can potentially interrupt their load. Customers must be able to reduce their electric loads by a minimum of 50kW on control days. Participants save as much as 58 percent on secondary voltage demand charges over the entire year for the demand they commit to reduce during control periods. Minnesota participation in this program in 2013 was approximately 2,025 customers.

b. Saver's Switch – Business Customers

Saver's Switch for business customers is a direct load control program. Participating customers receive a monthly discount of $5 per enrolled ton of air conditioning during the months of June through September. In exchange, Xcel Energy has the ability to control electric central air conditioners on days of peak electric demand. Minnesota participation in this program in 2013 was approximately 15,900 customers.

c. Saver's Switch – Residential Customers

Saver's Switch for residential customers is a load management program that provides direct load control of central air conditioners and electric water heaters. Participants in the central air conditioning program receive a 15 percent discount on their June through September electric energy and fuel cost charges. These participants are eligible to receive an additional two percent discount for enrolling their electric water heater. Water heaters can be controlled year-round, and the associated water heater discount applies year-round as well. Minnesota participation in this program in 2013 was approximately 377,000 customers.

d. Energy Controlled Service (Non-Demand Metered)

We additionally offer a program for new or existing Minnesota electric customers (Rate A05), whose home or business has a primary electric heat source and an alternative fossil fuel heat source. The program offers customers the opportunity to save money on their electric heating costs by allowing Xcel Energy to control (interrupt) their primary electric heat source, during peak heating times (October – May). During an interruption, customers must be able to switch to their backup/dual fuel heat source. There are two options: Standard energy control rate and Optional energy control rate (allows Heat Pumps to be controlled during the summer months). Minnesota participation in this program in 2013 was 3,092 customers.

## F. Electric Vehicles

The Commission has previously expressed interest in EV initiatives as part of this docket, so we provide an expanded EV discussion below, updated for this 2013 report:

We believe utilities will necessarily play a critical role in enabling alternative transportation markets. In 2013, leading automotive manufacturers developed additional EV models to provide to the public for passenger vehicles, as well as medium and heavy duty options for business-oriented use. While EVs have seen double-digit growth, adoption appears to be following the slower growth scenarios, as indicated on previous industry projections.[11] Still, based on customer interest and industry development, Xcel Energy continues to anticipate future needs to fulfill the role of providing the energy to power alternative fuel vehicles in a safe, reliable, and cost-effective manner.

*1. EVs at Xcel Energy*

Since 2011, Xcel Energy has had a "Repowering Transportation" team that includes representatives from across the Company, to assess and prepare for the greater utilization of EVs and other alternative fuel vehicles, such as Compressed Natural Gas (CNG). The team has been charged with developing and implementing a comprehensive strategy to address clean transportation issues.

[11] Electric Drive Transportation Association tracked 52,835 plug in electric vehicle sales in 2012 and 96,702 in 2013. *See* http://electricdrive.org/index.php?ht=d/sp/i/20952/pid/20952

In 2013, we continued to implement the communications program the team developed to educate our customers, and engage with other interested stakeholders. We use xcelenergy.com, the Connect Blog, printed brochures and other materials to provide relevant information about electric vehicle programs, technologies, and news.[12] We have, and will continue, to adopt alternative vehicles into our own fleet, to investigate the impacts of EVs on our distribution system, and to develop collaborative relationships with external stakeholders. In 2013, we observed a full year of the fee-based employee charging pilot program we developed in 2012 to improve our understanding of costs and benefits associated with businesses offering EV charging services to employees. We plan to continue the pilot as more employees adopt electric vehicles.

### 2. *Collaboration*

We continue to participate in Drive Electric Minnesota (DEM), which is a partnership among Xcel Energy, local and state governments, as well as private and non-profit business entities working to bring electric vehicles and plug-in charging infrastructure to Minnesota. DEM's goals include encouraging the deployment of EVs and the establishment of a charging station infrastructure.

Through the Chairman's fund in 2010 and 2011, Xcel Energy has collaborated with DEM to help facilitate purchases of 14 Transit Connect electric vehicles for demonstration in highly visible fleets. Additionally, in 2012 and 2013, Xcel Energy supported the installation of 92 public charging stations in key locations at city, university, and public transit locations by leveraging an Xcel Energy contribution with additional federal and local grant funds. The Company continues to work with DEM to complete the installation of these charging stations while also promoting the Zero Emissions Challenge to encourage renewable energy offsets for the charging stations.[13]

### 3. *Utility System Impacts*

In the small but growing EV industry, adoption rates of electric vehicles are still uncertain. Building upon external projections and using an econometrics model, the Company created a projection of the demand and energy sales impact of EVs in NSPM's service territory. Using these projections and peak transformer load data, we have analyzed scenarios representing different penetration levels of EVs.

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[12] We note that we additionally provide educational materials regarding natural gas vehicles.
[13] *See* http://www.energyinnovationcorridor.com/page/showcase/drive-electric-mn/

We continue to expect generation and transmission capacity will be sufficient to meet demand, even under aggressive scenarios over the short- and medium-terms. While we expect EVs to represent a higher than normal load increase, we believe that we will be able to effectively manage the total load that they may put on our system. We are accustomed to dealing with increasing loads, and have the tools and practices in place to make the capacity planning decisions necessary to accommodate the additional load caused by EV charging.

However, although we expect generation and transmission capacity to be sufficient, actual distribution system impacts are difficult to predict due to unknowable details. Our analysis indicates that there are potential impacts to the distribution system, the extent of which will depend on customer EV adoption levels and the geographic patterns/clustering that occurs.[14] However, we are aware and taking additional steps such as collaborating with auto manufacturers to gather information on the geographic location of EVs for planning and mitigation of system impacts.

The electric infrastructure exists today to fuel EVs. As customer adoption of EVs rises, we will continue to closely monitor and manage transformer loading and other system impacts stemming from the incremental load from EV charging.

### 4. *Customer Charging Behavior and Programs*

When customers increase their usage of electricity, the cost to a utility (and ultimately other customers) depends upon the point(s) at which the increased usage occurs. While it appears that the majority of EV charging activity is occurring at drivers' residences, public and workplace charging options continue to increase.

As noted previously, we continue to market our existing TOD rate option to EV drivers, to encourage charging during off-peak times. This has the potential to provide both customer and Company benefits. Customers have the opportunity to reduce bill impacts, and customer enrollment in TOD options may allow the Company to mitigate potential stress to the distribution system caused by EV charging.

We have also developed a marketing campaign, *Drive with GUST-o,* which educates our EV-owning customers how they can power their vehicle with Windsource for emissions-free driving at home. And, as noted above, the DEM Zero Emissions

[14] An EV charging at 6.6 kW (Level 2 charger) is similar to the peak load of an entire home. Distribution transformers generally serve between 5-15 homes; depending on the existing transformer load, incremental load from multiple EVs could cause the transformer to overload.

Challenge initiative targets WindSource participation for public charging infrastructure in public and workplace locations.

We desire to support customers in their adoption of technologies that will help them manage their environmental impact and energy use, whether that is for their home or transportation. NSPM will continue monitor EV-related activities throughout the United States and evaluate opportunities to provide EV-related programs that are cost-effective for both our EV-owner customers and other customers.

*5. EV impact on "Smartgrid"*

Based on our current knowledge, we do not believe that Smartgrid technologies, such as smart meters, or transformer monitoring, are essential to reducing the short-term impact of EVs on our system. However, we do believe that these technologies would assist in discovering or anticipating issues on the local distribution grid and could provide benefits to both EV owners and the Company. Any system issues resulting from EV charging are dependent on adoption rates and charging behavior, which today are not fully understood due to the stage at which we are in Minnesota.

Customer behavior modifications, such as charging vehicles off-peak, may be sufficient to mitigate any issues and may not require Smartgrid technology, depending on its form. We are continuing to monitor and participate in customer behavior studies that will provide more information on EV impacts and mitigation strategies. As with any system modification or modernization, we will evaluate and balance the cost-effectiveness of emerging technologies to ensure it will provide value to our customers.

## CONCLUSION

Xcel Energy respectfully requests the Commission accept this 2013 Annual Report.

Dated: April 1, 2014

Northern States Power Company

RESPECTFULLY SUBMITTED,

/s/
By: ______________________________
PAUL J LEHMAN
MANAGER, REGULATORY COMPLIANCE & FILINGS

**Proposed Reliability Standards 2014**
**Minn. R. 7826.0600, subpt. 1**



| Metro East | 2009 | 2010 | 2011 | 2012 | 2013 | Straight 5 Year Avg CAIDI using SAIDI/SAIFI<br>Proposed Standards for 2013 | 5 Year Median<br>Proposed Standards for 2013 | Avg after Removing High and Low<br>Proposed Standards for 2013 | Lowest of 3 Methods<br>Proposed Standards for 2013 |
|---|---|---|---|---|---|---|---|---|---|
| SAIFI | 0.73 | 1.15 | 0.78 | 0.91 | 0.83 | **0.88** | **0.83** | **0.84** | **0.83** |
| CAIDI | 101.87 | 76.87 | 89.61 | 108.36 | 97.75 | **93.72** | **97.75** | **96.41** | **93.72** |
| SAIDI | 74.21 | 88.30 | 69.89 | 98.35 | 81.28 | **82.41** | **81.28** | **81.26** | **81.26** |
| CAIDI using SAIDI/SAIFI | | | | | | | **97.75** | **96.78** | **97.72** |

| Metro West | 2009 | 2010 | 2011 | 2012 | 2013 | Proposed Standards for 2013 | Proposed Standards for 2013 | Proposed Standards for 2013 | Proposed Standards for 2013 |
|---|---|---|---|---|---|---|---|---|---|
| SAIFI | 0.79 | 1.19 | 0.87 | 0.98 | 0.94 | **0.95** | **0.94** | **0.93** | **0.93** |
| CAIDI | 106.58 | 96.49 | 98.20 | 105.93 | 105.09 | **102.11** | **105.09** | **103.07** | **102.11** |
| SAIDI | 84.43 | 114.85 | 85.07 | 103.98 | 98.71 | **97.41** | **98.71** | **95.92** | **95.92** |
| CAIDI using SAIDI/SAIFI | | | | | | | **105.09** | **103.25** | **103.25** |

| Northwest | 2009 | 2010 | 2011 | 2012 | 2013 | Proposed Standards for 2013 | Proposed Standards for 2013 | Proposed Standards for 2013 | Proposed Standards for 2013 |
|---|---|---|---|---|---|---|---|---|---|
| SAIFI | 0.65 | 0.77 | 0.85 | 0.84 | 0.93 | **0.81** | **0.84** | **0.82** | **0.81** |
| CAIDI | 96.21 | 108.70 | 122.13 | 125.62 | 102.86 | **111.70** | **108.70** | **111.23** | **108.70** |
| SAIDI | 62.07 | 84.02 | 103.27 | 106.07 | 95.90 | **90.27** | **95.90** | **94.40** | **90.27** |
| CAIDI using SAIDI/SAIFI | | | | | | | **113.59** | **114.98** | **111.70** |

| Southeast | 2009 | 2010 | 2011 | 2012 | 2013 | Proposed Standards for 2013 | Proposed Standards for 2013 | Proposed Standards for 2013 | Proposed Standards for 2013 |
|---|---|---|---|---|---|---|---|---|---|
| SAIFI | 0.63 | 0.86 | 0.72 | 0.59 | 0.75 | **0.71** | **0.72** | **0.70** | **0.70** |
| CAIDI | 110.06 | 121.07 | 107.92 | 120.50 | 145.11 | **121.42** | **120.50** | **117.21** | **117.21** |
| SAIDI | 69.37 | 103.67 | 78.15 | 71.54 | 108.83 | **86.31** | **78.15** | **84.45** | **78.15** |
| CAIDI using SAIDI/SAIFI | | | | | | | **107.92** | **120.39** | **111.40** |

Notes:
Each year's calculations use storm day thresholds based on the prior five years of outage history.
Calculations are based on the number of customers who receive a bill.
SD Divisional feeders serving Minnesota customers are included in Southeast region
ND Divisional feeders serving Minnesota customers are included in Northwest region
Partial Customer Minutes includes all levels and is the amount saved from overall customer minutes.

# Analysis to Evaluate Different Methodologies

**Based on Annual Rules Method**

| Metro East | 2013 Actual | 2013 Targets: Approved (5 Year Avg) | 5 Yr Median | 5 Yr Avg after removing Hi & Low | Lowest of Other Methods | 2012 Actual | 2011 Actual | 2010 Actual | 2009 Actual | 2008 Actual |
|---|---|---|---|---|---|---|---|---|---|---|
| SAIDI | 81.28 | 85.44 | 88.30 | 86.32 | 85.44 | 98.35 | 69.89 | 88.30 | 74.21 | 96.46 |
| SAIFI | 0.83 | 0.94 | 0.91 | 0.94 | 0.91 | 0.91 | 0.78 | 1.15 | 0.73 | 1.14 |
| CAIDI | 97.75 | 90.75 | 89.61 | 91.96 | 89.61 | 108.36 | 89.61 | 76.87 | 101.87 | 84.39 |
| | | 90.75 | 97.28 | 91.49 | 94.14 | CAIDI using SAIDI / SAIFI formula | | | | |

SAIDI & SAIFI On Taget for all target methods
CAIDI Off Target for all target methods

| Metro West | 2013 Actual | 2013 Targets: Approved (5 Year Avg) | 5 Yr Median | 5 Yr Avg after removing Hi & Low | Lowest of Other Methods | 2012 Actual | 2011 Actual | 2010 Actual | 2009 Actual | 2008 Actual |
|---|---|---|---|---|---|---|---|---|---|---|
| SAIDI | 98.71 | 97.92 | 101.28 | 96.78 | 96.78 | 103.98 | 85.07 | 114.85 | 84.43 | 101.28 |
| SAIFI | 0.94 | 0.98 | 0.98 | 0.97 | 0.97 | 0.98 | 0.87 | 1.19 | 0.79 | 1.06 |
| CAIDI | 105.09 | 100.17 | 98.20 | 100.21 | 98.20 | 105.93 | 98.20 | 96.49 | 106.58 | 95.78 |
| | | 100.17 | 103.19 | 99.93 | 99.93 | CAIDI using SAIDI / SAIFI formula | | | | |

SAIDI Off Target for 5 Year Avg, Avg after removing Hi & Low, and Lowest value methods, On Target for Median
SAIFI On Target for all target methods
CAIDI Off Target for all target methods

| Northwest | 2013 Actual | 2013 Targets: Approved (5 Year Avg) | 5 Yr Median | 5 Yr Avg after removing Hi & Low | Lowest of Other Methods | 2012 Actual | 2011 Actual | 2010 Actual | 2009 Actual | 2008 Actual |
|---|---|---|---|---|---|---|---|---|---|---|
| SAIDI | 95.90 | 102.56 | 103.27 | 97.79 | 97.79 | 106.07 | 103.27 | 84.02 | 62.07 | 157.38 |
| SAIFI | 0.93 | 0.87 | 0.84 | 0.82 | 0.82 | 0.84 | 0.85 | 0.77 | 0.65 | 1.24 |
| CAIDI | 102.86 | 117.94 | 122.13 | 118.82 | 117.94 | 125.62 | 122.13 | 108.70 | 96.21 | 126.93 |
| | | 117.94 | 122.31 | 119.11 | 119.11 | CAIDI using SAIDI / SAIFI formula | | | | |

SAIDI & CAIDI On Target for all target methods
SAIFI Off Target for all target methods

| Southeast | 2013 Actual | 2013 Targets: Approved (5 Year Avg) | 5 Yr Median | 5 Yr Avg after removing Hi & Low | Lowest of Other Methods | 2012 Actual | 2011 Actual | 2010 Actual | 2009 Actual | 2008 Actual |
|---|---|---|---|---|---|---|---|---|---|---|
| SAIDI | 108.83 | 78.16 | 71.54 | 73.02 | 71.54 | 71.54 | 78.15 | 103.67 | 69.37 | 68.09 |
| SAIFI | 0.75 | 0.71 | 0.72 | 0.70 | 0.70 | 0.59 | 0.72 | 0.86 | 0.63 | 0.75 |
| CAIDI | 145.11 | 109.97 | 110.06 | 112.83 | 109.97 | 120.50 | 107.92 | 121.07 | 110.06 | 90.85 |
| | | 109.97 | 98.80 | 104.12 | 102.01 | CAIDI using SAIDI / SAIFI formula | | | | |

SAIDI, SAIFI, & CAIDI Off Target for all target methods

This Attachment addresses the requirements of the Commission's January 13, 2014 Order in Docket No. E002/M-13-255, specifically:

3. *Xcel shall augment its next annual 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 proactive management of the system as a whole, increased reliability, and active contingency planning.*
4. *Xcel shall incorporate into its next annual 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 2013 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.

In addition, at the last Commission hearing regarding our annual service quality report on December 12, 2013, Commissioners noted they would like to have a better understanding of the customer's experience. In an effort to respond to those comments, we have included three new tables to illustrate our reliability performance trending as well as a discussion around new CEMI (Customers Experiencing Multiple Interruptions) tools.

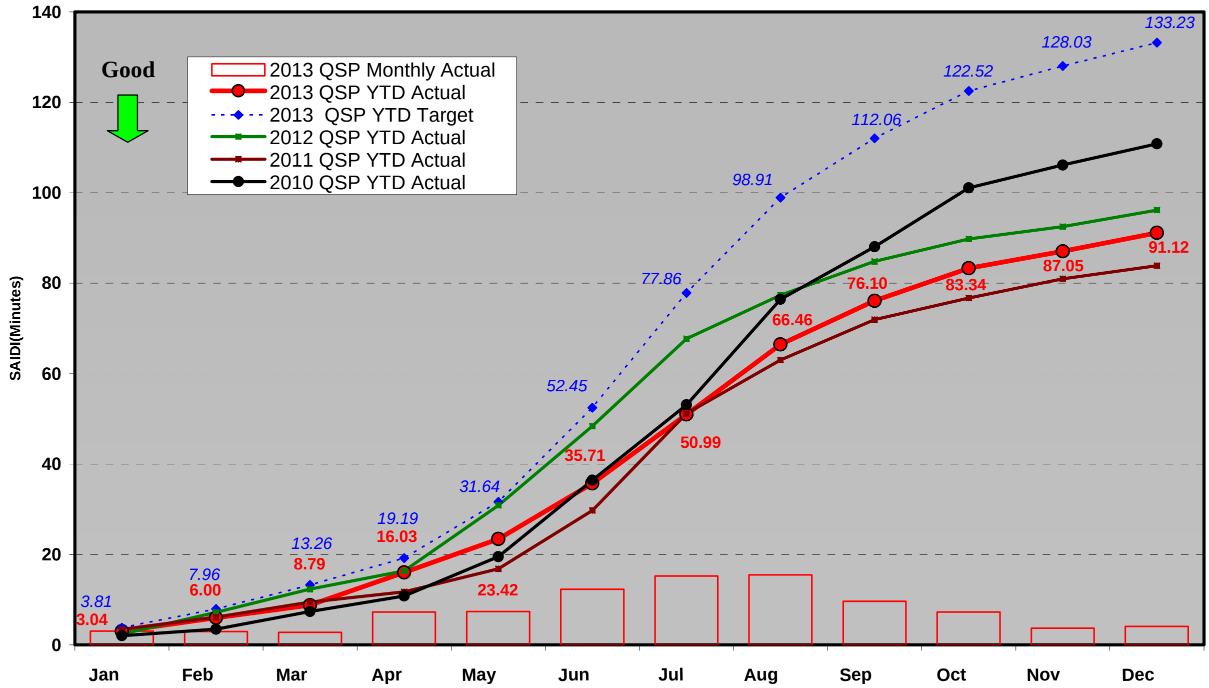
## 2013 Reliability Results

In 2013, we achieved a SAIDI result of 91.12 minutes, which exceeds our Quality of Service Plan tariff goal of 133.23 minutes.[1] Our 2013 SAIFI result of .86 outage events also exceeds the QSP tariff goal of 1.21 outage events.[2] The below graphs show overall system performance for the years 2010 through 2013, with storm days excluded, per the new 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

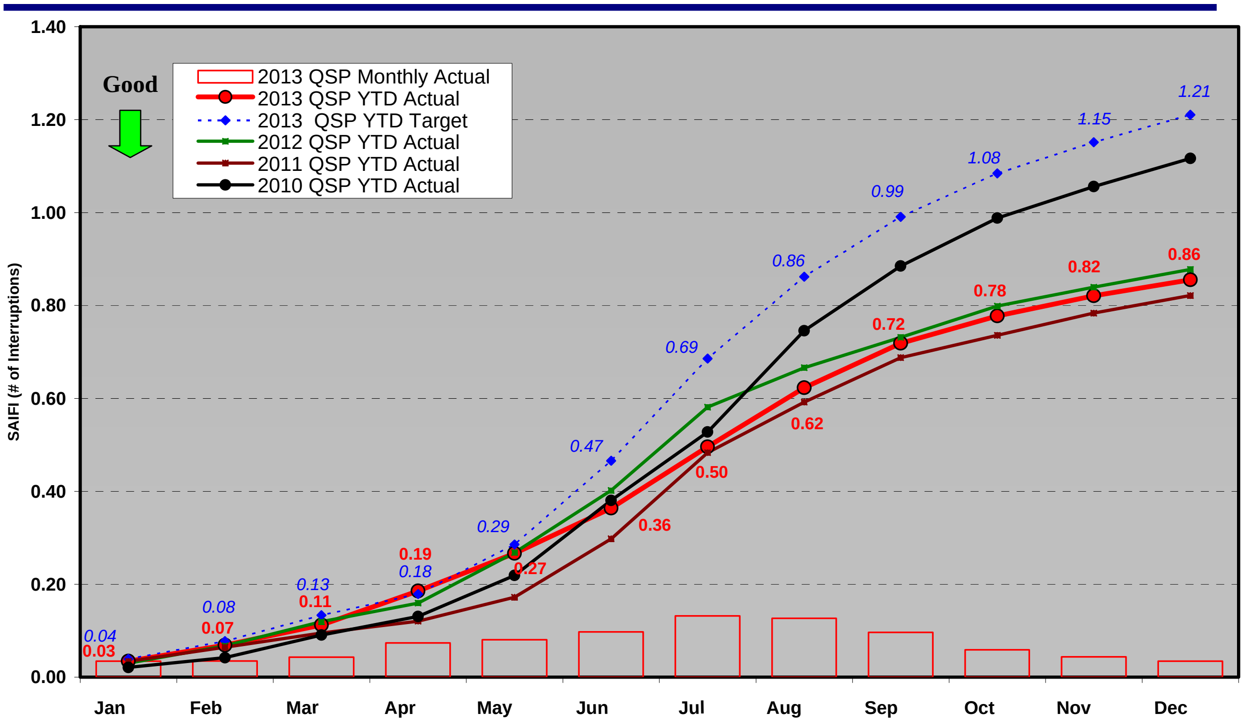
[2] In this context, "exceeding" the goals is a positive result, reflecting good system performance.

## *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*

## *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*

We have previously provided a chart of QSP Tariff historical storm day exclusions, however, this year in an effort to provide the Commission a better idea of our reliability performance trending, we are now providing 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 |
|---|---|---|---|---|---|---|
| Minnesota | SAIDI | 79.66 | 274.42 | 207.77 | 149.15 | 562.11 |
| | SAIFI | 0.76 | 1.50 | 1.11 | 1.07 | 1.39 |
| | CAIDI | 104.58 | 183.43 | 187.11 | 139.51 | 404.36 |
| Metro East | SAIDI | 76.66 | 270.43 | 113.90 | 190.95 | 352.30 |
| | SAIFI | 0.76 | 1.59 | 0.96 | 1.20 | 1.27 |
| | CAIDI | 101.50 | 170.23 | 118.95 | 159.23 | 278.46 |
| Metro West | SAIDI | 86.77 | 301.09 | 238.03 | 139.19 | 810.01 |
| | SAIFI | 0.81 | 1.54 | 1.19 | 1.10 | 1.55 |
| | CAIDI | 106.87 | 196.10 | 199.66 | 126.85 | 523.66 |
| Northwest[4] | SAIDI | 62.08 | 181.38 | 470.05 | 109.75 | 468.22 |
| | SAIFI | 0.65 | 1.26 | 1.40 | 0.87 | 1.40 |
| | CAIDI | 96.21 | 143.66 | 334.78 | 126.17 | 335.53 |
| Southeast[5] | SAIDI | 73.10 | 251.24 | 125.28 | 97.25 | 179.29 |
| | SAIFI | 0.66 | 1.24 | 0.95 | 0.71 | 1.06 |
| | CAIDI | 110.52 | 203.04 | 131.69 | 137.84 | 168.93 |

| MN Tariff[2] | | 2009 | 2010 | 2011 | 2012 | 2013 | '13 Target |
|---|---|---|---|---|---|---|---|
| Minnesota | SAIDI | 74.48 | 110.83 | 83.87 | 96.20 | 91.12 | 133.23 |
| | SAIFI | 0.71 | 1.12 | 0.82 | 0.88 | 0.86 | 1.21 |
| | CAIDI | 104.90 | 99.24 | 102.08 | 109.60 | 106.51 | NA |
| Metro East | SAIDI | 69.43 | 102.03 | 79.34 | 90.70 | 83.56 | |
| | SAIFI | 0.70 | 1.20 | 0.83 | 0.88 | 0.83 | |
| | CAIDI | 98.60 | 85.09 | 96.00 | 103.35 | 100.72 | |
| | MED | 0 | 4 | 2 | 5 | 3 | |
| | 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 | |
| Metro West | SAIDI | 85.69 | 123.25 | 88.20 | 103.42 | 101.24 | |
| | SAIFI | 0.80 | 1.22 | 0.87 | 0.97 | 0.96 | |
| | CAIDI | 107.03 | 101.10 | 101.09 | 106.83 | 105.85 | |
| | MED | 0 | 4 | 5 | 3 | 5 | |
| | 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 | |
| Northwest[4] | SAIDI | 52.61 | 102.79 | 79.42 | 94.20 | 85.78 | |
| | SAIFI | 0.45 | 0.80 | 0.69 | 0.73 | 0.75 | |
| | CAIDI | 116.70 | 129.28 | 115.38 | 128.31 | 113.87 | |
| | MED | 0 | 2 | 6 | 0 | 2 | |
| | Days | None | 8/13,10/26 | 2/20,5/30,7/1,7 /10,8/1,8/2 | None | 6/21,6/22 | |
| Southeast[5] | SAIDI | 59.71 | 89.58 | 82.70 | 82.40 | 73.58 | |
| | SAIFI | 0.56 | 0.69 | 0.70 | 0.59 | 0.57 | |
| | CAIDI | 107.39 | 130.66 | 118.72 | 138.48 | 129.93 | |
| | MED | 0 | 5 | 2 | 1 | 4 | |
| | 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 | |

| Annual Rules[3] | | 2009 | 2010 | 2011 | 2012 | 2013 | '13 Target |
|---|---|---|---|---|---|---|---|
| Minnesota | SAIDI | 77.36 | 101.99 | 81.10 | 99.00 | 93.73 | NA |
| | SAIFI | 0.74 | 1.10 | 0.82 | 0.90 | 0.88 | NA |
| | CAIDI | 104.49 | 92.54 | 98.75 | 109.47 | 106.06 | NA |
| Metro East | SAIDI | 74.21 | 88.30 | 69.89 | 98.35 | 81.28 | 85.44 |
| | SAIFI | 0.73 | 1.15 | 0.78 | 0.91 | 0.83 | 0.94 |
| | CAIDI | 101.87 | 76.87 | 89.61 | 108.36 | 97.75 | 90.75 |
| | Storm | 1 | 7 | 5 | 5 | 5 | |
| | 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 | |
| Metro West | SAIDI | 84.43 | 114.85 | 85.07 | 103.98 | 98.71 | 97.92 |
| | SAIFI | 0.79 | 1.19 | 0.87 | 0.98 | 0.94 | 0.98 |
| | CAIDI | 106.58 | 96.49 | 98.20 | 105.93 | 105.09 | 100.17 |
| | Storm | 1 | 5 | 7 | 3 | 7 | |
| | Days | 5/20 | 6/25,7/17,10/26 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 | |
| Northwest[4] | SAIDI | 62.07 | 84.02 | 103.27 | 106.07 | 95.90 | 102.56 |
| | SAIFI | 0.65 | 0.77 | 0.85 | 0.84 | 0.93 | 0.87 |
| | CAIDI | 96.21 | 108.70 | 122.13 | 125.62 | 102.86 | 117.94 |
| | Storm | 0 | 8 | 8 | 1 | 3 | |
| | Days | None | 5/22,6/11,7/17, 8/12,8/13,10/26 ,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 | |
| Southeast[5] | SAIDI | 69.37 | 103.67 | 78.15 | 71.54 | 108.83 | 78.16 |
| | SAIFI | 0.63 | 0.86 | 0.72 | 0.59 | 0.75 | 0.71 |
| | CAIDI | 110.06 | 121.07 | 107.92 | 120.50 | 145.11 | 109.97 |
| | Storm | 1 | 10 | 7 | 5 | 4 | |
| | Days | 5/20 | 6/11,6/17,6/25, 6/26,6/27,7/24, 8/10,8/13,10/26 ,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 | |

**1) With Storms** - Includes All Days, Levels and Causes, Meter-based customer counts
**2) MN Tariff** - Normalized using IEEE 1366 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, 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 2009 through 2013. The "balloons" highlight areas our plans are currently focusing on.

Previously when we provided these pareto charts they were based on NSPM (which includes Minnesota, North Dakota and South Dakota) and used our corporate storm

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

normalization days. We have updated these charts this year to be based on Minnesota only using our new QSP Tariff methodology.

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**

***Reliability Management Program Impacts (Star Chart)***

**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 below chart 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.

**[TRADE SECRET BEGINS**

## Reliability Management Work Practices Chart

**TRADE SECRET ENDS]**

**[TRADE SECRET BEGINS**

## Reliability Management Work Practices Chart (cont)

**TRADE SECRET ENDS]**

**[TRADE SECRET BEGINS**

**Reliability Management Work Practices Chart (cont)**

**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:

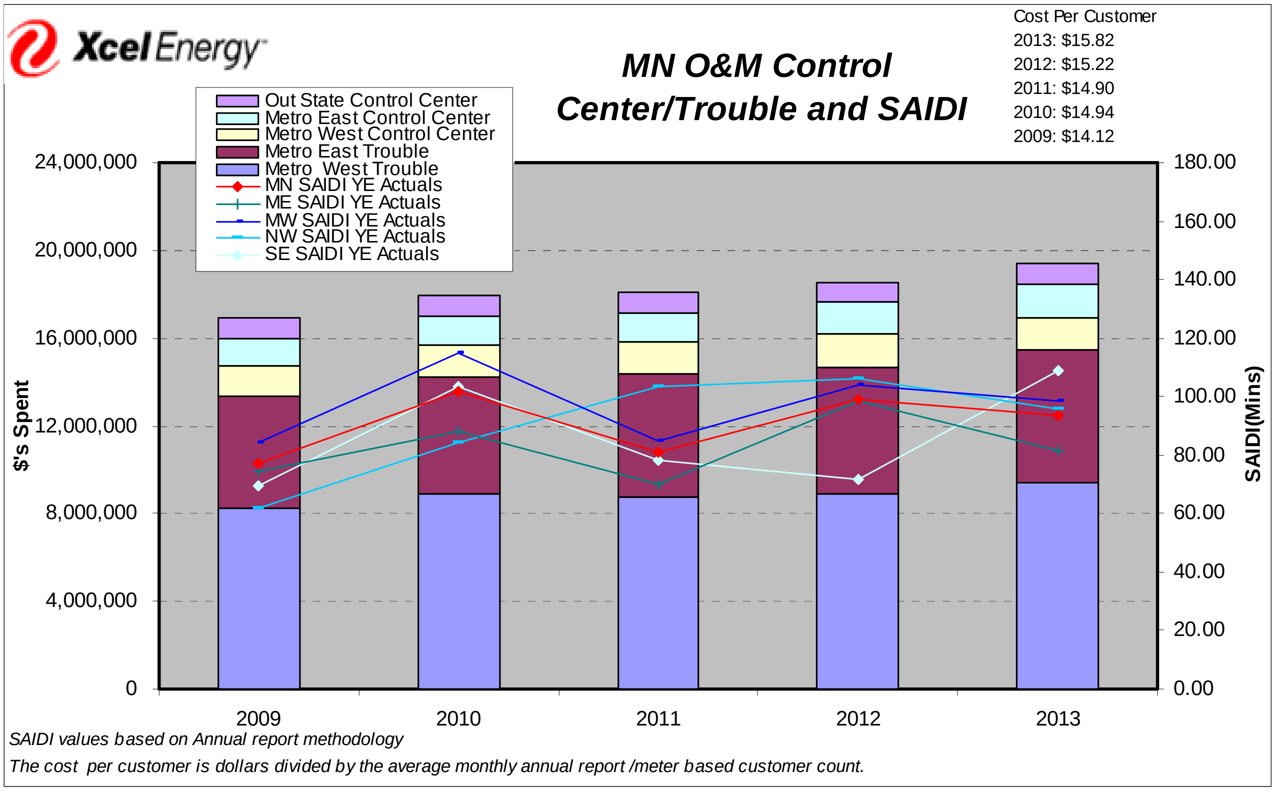
1) Distribution Control Center and Trouble Operations O&M costs; and,
2) Distribution Capital Reliability Expenditures.

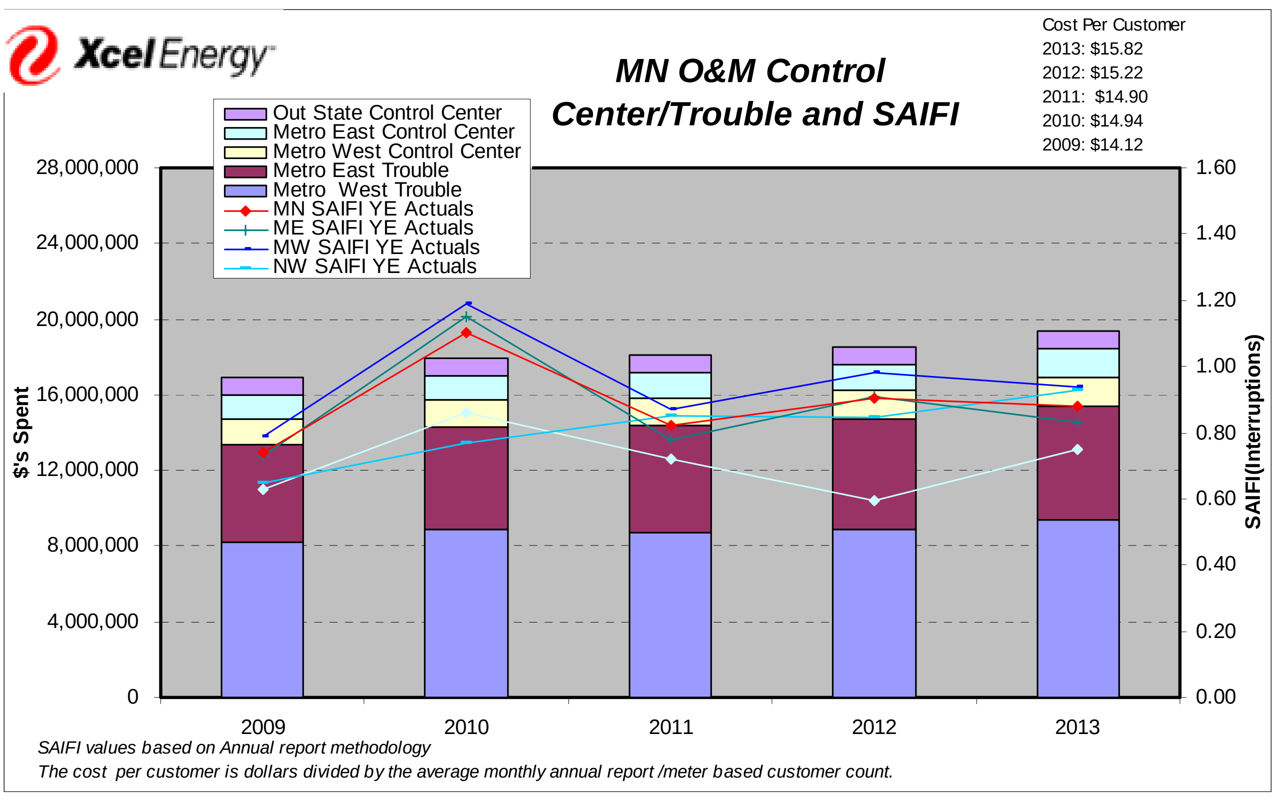
We provide below, graphs demonstrating these costs compared to both SAIDI and SAIFI for 2009-2013.

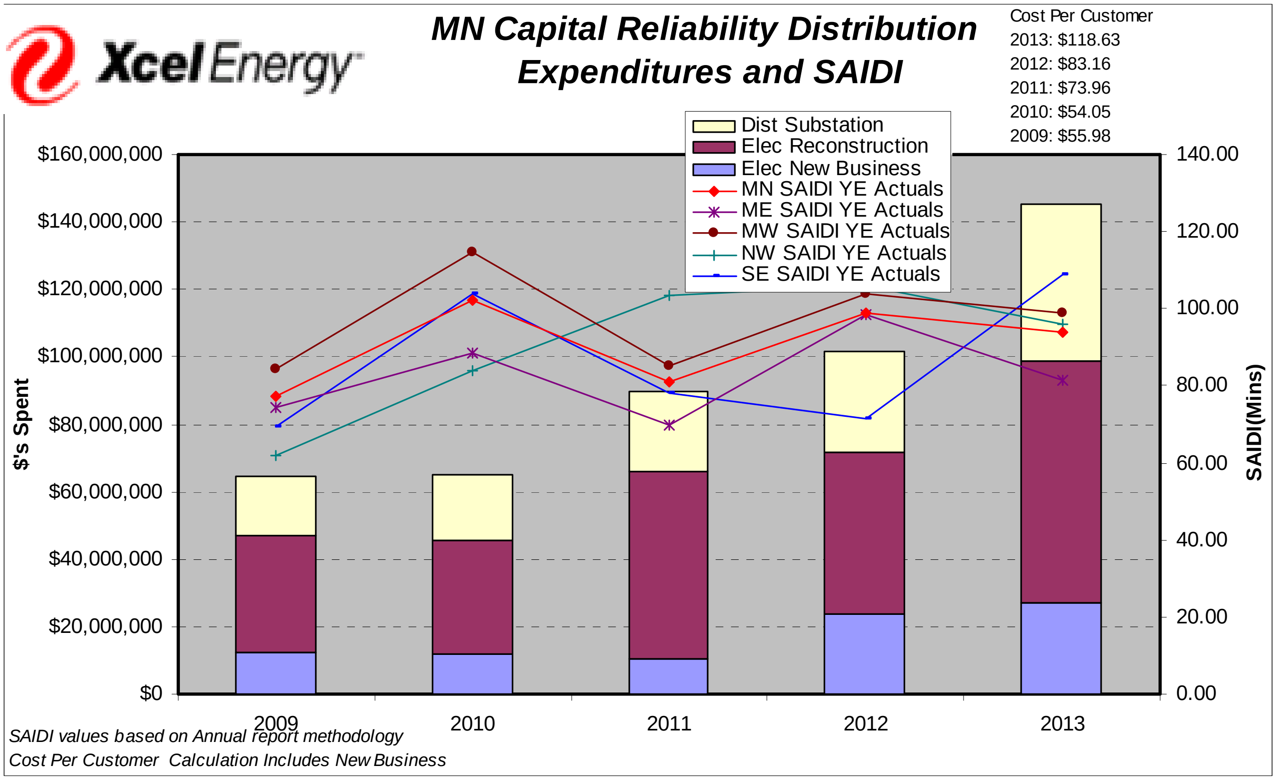
We note that we calculated the below Minnesota O&M Control Center/Trouble costs using the actual expenses (labor, fleet, materials, and other) of the five business areas whose primary responsibility is outage restoration and emergency response. We note that this includes dispatchers from North Dakota and South Dakota

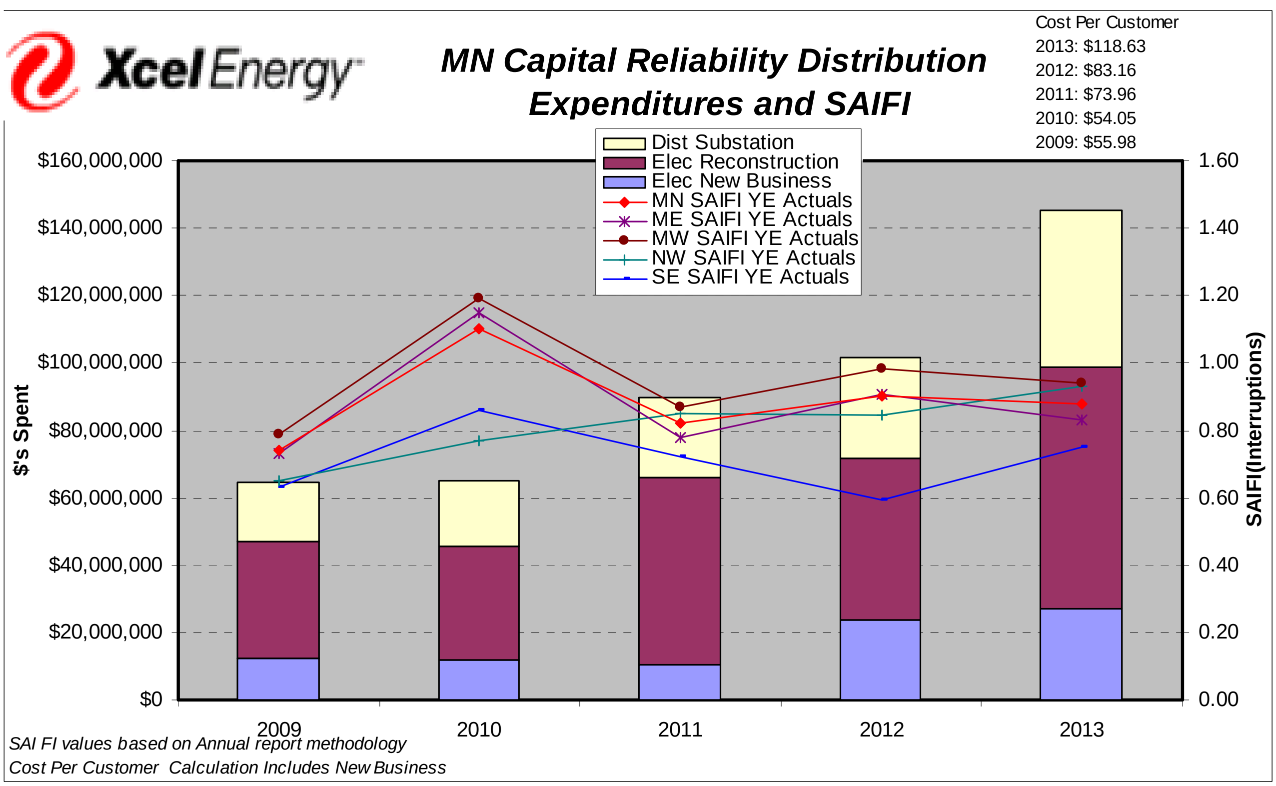
Additionally, we provide graphs demonstrating our SAIDI and SAIFI performance compared to our Capital Reliability Expenditures.

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.


Xcel Energy
MN O&M Control Center/Trouble and SAIDI
Cost Per Customer
2013: $15.82
2012: $15.22
2011: $14.90
2010: $14.94
2009: $14.12
Out State Control Center
Metro East Control Center
Metro West Control Center
Metro East Trouble
Metro West Trouble
MN SAIDI YE Actuals
ME SAIDI YE Actuals
MW SAIDI YE Actuals
NW SAIDI YE Actuals
SE SAIDI YE Actuals
$'s Spent
SAIDI(Mins)
24,000,000
20,000,000
16,000,000
12,000,000
8,000,000
4,000,000
0
180.00
160.00
140.00
120.00
100.00
80.00
60.00
40.00
20.00
0.00
2009
2010
2011
2012
2013
SAIDI values based on Annual report methodology
The cost per customer is dollars divided by the average monthly annual report /meter based customer count.


Xcel Energy
MN O&M Control Center/Trouble and SAIFI
Cost Per Customer
2013: $15.82
2012: $15.22
2011: $14.90
2010: $14.94
2009: $14.12
Out State Control Center
Metro East Control Center
Metro West Control Center
Metro East Trouble
Metro West Trouble
MN SAIFI YE Actuals
ME SAIFI YE Actuals
MW SAIFI YE Actuals
NW SAIFI YE Actuals
$'s Spent
SAIFI(Interruptions)
28,000,000
24,000,000
20,000,000
16,000,000
12,000,000
8,000,000
4,000,000
0
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
2009
2010
2011
2012
2013
SAIFI values based on Annual report methodology
The cost per customer is dollars divided by the average monthly annual report /meter based customer count.


Xcel Energy
MN Capital Reliability Distribution Expenditures and SAIDI
Cost Per Customer
2013: $118.63
2012: $83.16
2011: $73.96
2010: $54.05
2009: $55.98
Dist Substation
Elec Reconstruction
Elec New Business
MN SAIDI YE Actuals
ME SAIDI YE Actuals
MW SAIDI YE Actuals
NW SAIDI YE Actuals
SE SAIDI YE Actuals
$160,000,000
$140,000,000
$120,000,000
$100,000,000
$80,000,000
$60,000,000
$40,000,000
$20,000,000
$0
$'s Spent
140.00
120.00
100.00
80.00
60.00
40.00
20.00
0.00
SAIDI(Mins)
2009
2010
2011
2012
2013
SAIDI values based on Annual report methodology
Cost Per Customer Calculation Includes New Business


Xcel Energy
MN Capital Reliability Distribution Expenditures and SAIFI
Cost Per Customer
2013: $118.63
2012: $83.16
2011: $73.96
2010: $54.05
2009: $55.98
Dist Substation
Elec Reconstruction
Elec New Business
MN SAIFI YE Actuals
ME SAIFI YE Actuals
MW SAIFI YE Actuals
NW SAIFI YE Actuals
SE SAIFI YE Actuals
$160,000,000
$140,000,000
$120,000,000
$100,000,000
$80,000,000
$60,000,000
$40,000,000
$20,000,000
$0
$'s Spent
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
SAIFI(Interruptions)
2009
2010
2011
2012
2013
SAI FI values based on Annual report methodology
Cost Per Customer Calculation Includes New Business

## CEMI Tools

At the last Commission hearing regarding our annual service quality report on December 12, 2013, Commissioners noted they would like to have a better understanding of the customer's experience. In an effort to respond to that comment, we have included some new maps and a discussion below.

We recently developed new 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 customer" 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 start studying 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.

We developed these tools over the past several years in an effort to expand our existing reliability planning and tools. While we have existing programs, such as the Reliability Management System (REMs) that help us identify specific equipment issues (for instance, the same device tripping multiple times) we did not have the capability to link the outage information with 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 serve the same customer. With existing tools and information, we looked for single protective devices that experienced multiple events and used that as a proxy to improve our customers' experience. However, new technologies now allow us to analyze customer experience *truly* from a customers' experience. These new tools should help our efforts to reduce repeated outages for customers.

Though we are still finalizing the details and uses of these new tools, we currently envision that these tools will be used by engineering and operations to optimize the performance of our system by allowing more in depth analysis on the customers that experience more outages than others.

Using these new 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 2013.

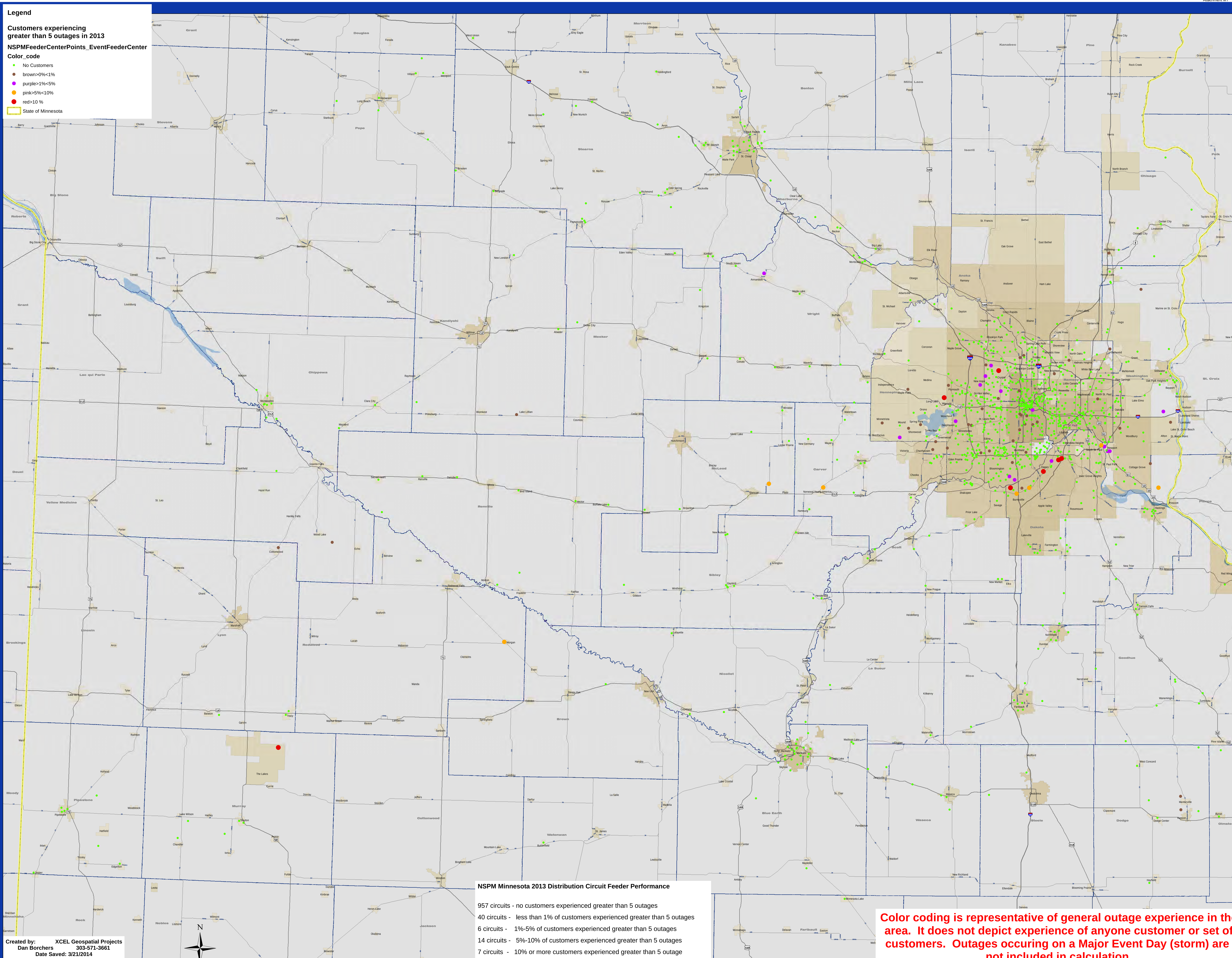
Additional notes about the Maps:

- 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.

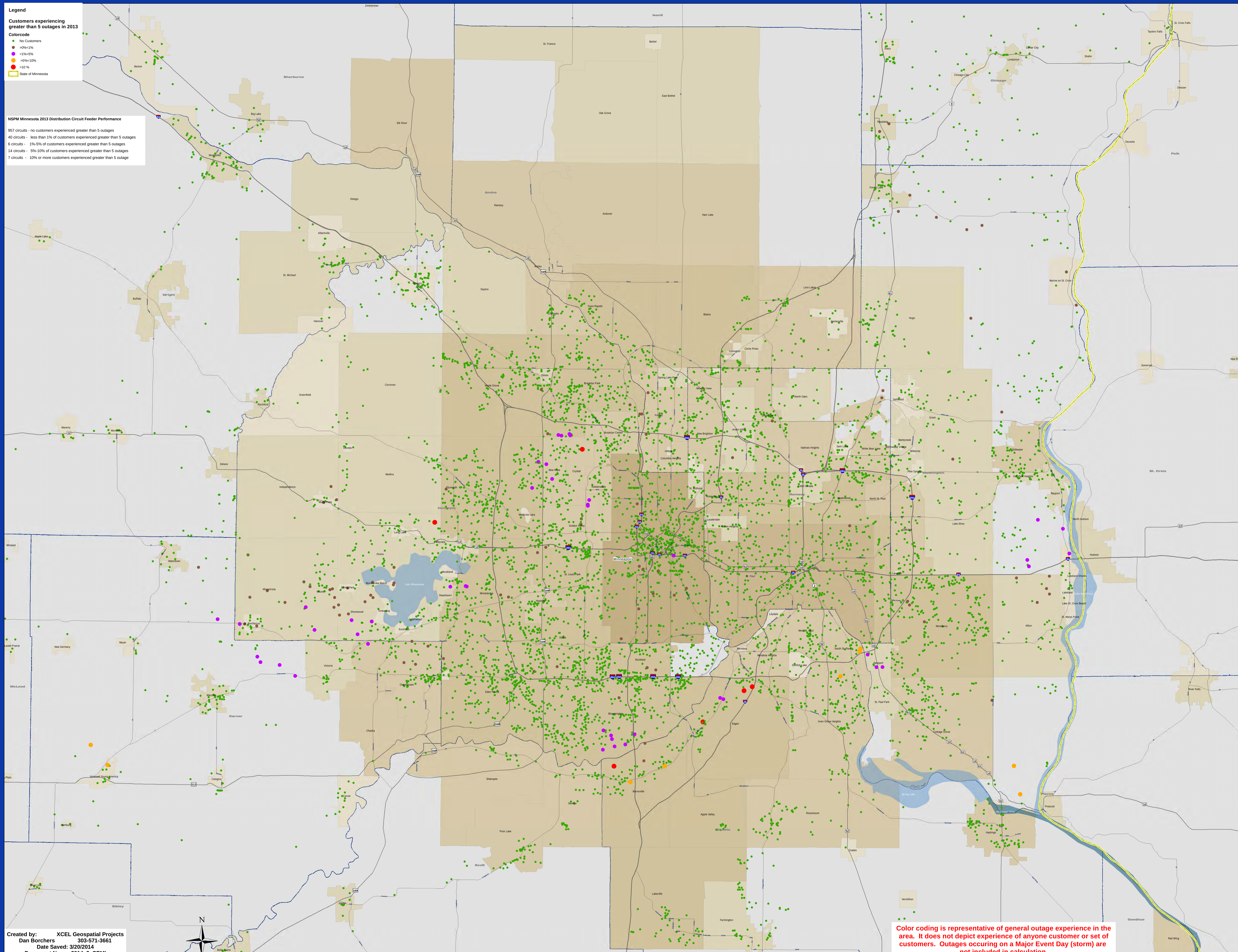
## Conclusion

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 3/21/2014



NSPM CEMI 3/20/2014



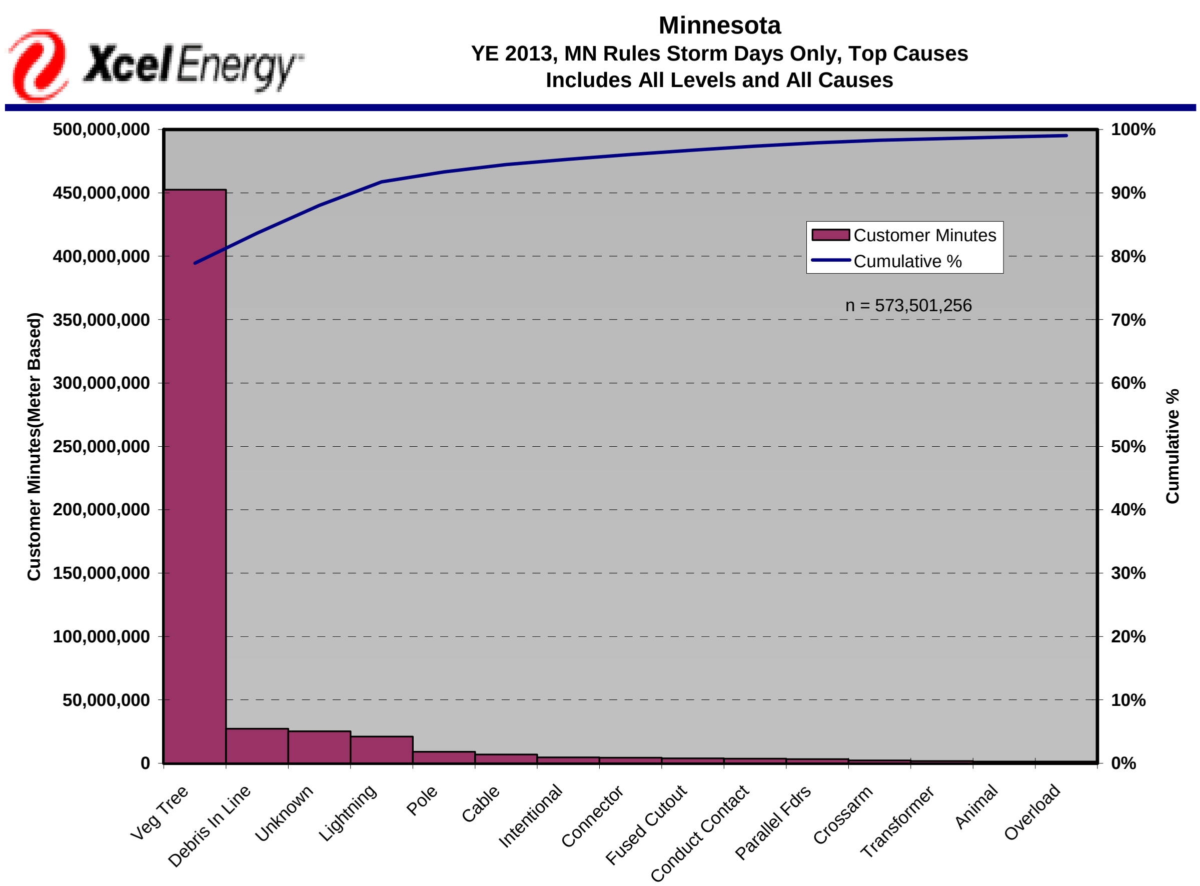
In this Attachment, we provide the following reliability-related information:

- 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 as well as a discussion of the options available to provide a full-MAIFI.

## 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 | 5/2/2013 | | | 1.2 |
| Metro East | 6/26/2013 | | | 1.5 |
| Metro East | 7/9/2013 | | 2.0 | |
| Metro East | 8/6/2013 | | | 3.4 |
| ***Region Total Impact*** | | ***0.0*** | ***2.0*** | ***6.2*** |
| | | | | |
| Metro West | 7/13/2013 | | 5.3 | |
| ***Region Total Impact*** | | ***0.0*** | ***5.3*** | ***0.0*** |
| | | | | |
| Northwest | 6/24/2013 | 0.1 | | |
| ***Region Total Impact*** | | ***0.1*** | ***0.0*** | ***0.0*** |
| | | | | |
| Southeast | 5/3/2013 | | 0.4 | |
| Southeast | 6/22/2013 | | 2.8 | |
| Southeast | 7/9/2013 | 0.6 | | |
| ***Region Total Impact*** | | ***0.6*** | ***3.2*** | ***0.0*** |
| | | | | |
| **MN Total Impact** | | ***0.1*** | ***3.5*** | ***2.0*** |

* 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 2013 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 2013 MAIFI results followed by definitions of the calculation methodologies we applied:

**2013 MAIFI Results**

| Region | Non-Normalized | Xcel Energy QSP Tariff | Xcel Energy Annual Rules |
|---|---|---|---|
| Minnesota | 1.00 | 0.66 | 0.83 |
| Metro East | 0.97 | 0.77 | 0.80 |
| Metro West | 0.87 | 0.65 | 0.77 |
| Northwest | 1.82 | 0.67 | 1.28 |
| Southeast | 0.89 | 0.35 | 0.78 |

*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.

In addition, 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, we have included the following five additional MAIFI reports as **Attachment N1**:

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.

## IV. MAIFI Report

Below is a discussion of the options available to implement a full-MAIFI.

### A. Background

MAIFI is a measure of momentary outages that was originally developed to measure transmission system performance. IEEE 1366 defines momentary outages as the single operation of an interrupting device resulting in a zero voltage. In other words, MAIFI tracks when a protective device opens and closes in a momentary fashion and the event does not result in a sustained outage. This will happen in a few seconds, normally less than fifteen seconds. In utility terms, any outage less than five minutes is termed as momentary. Since many of the distribution substations and the entire transmission system are monitored closely via the SCADA system, SCADA became a reasonable way to track this.

Momentary interruptions are generally caused by temporary faults caused by tree contact, lighting or animals. When these faults occur, protective devices detect the fault, interrupt the power supply and restore the power. If the fault is cleared, the power is restored. If the fault remains, the protective device will attempt to repeat the clearing process up to three times before the device remains open and the outage becomes sustained. These protective devices help prevent longer, sustained outages that would otherwise arise from the temporary faults.

On a related note, SAIDI (System Average Interruption Duration Index) and SAIFI (System Average Interruption Frequency Index) which are more widely used indices in the industry measure the average duration and frequency, respectively, of supply interruptions per customer per year. Only sustained interruptions are counted in SAIDI and SAIFI, so momentary outages are not accounted for in those measurements. Thus, there is a trade off between SAIDI/SAIFI and MAIFI—a choice between reducing the duration or frequency of sustained interruptions and reducing the momentary outages. For instance, one way to improve a MAIFI would be to reduce the number of temporary faults; however, that would mean those temporary faults would then immediately become sustained faults—and SAIDI and SAIFI would increase (and outage duration and frequency in general) which most customers would prefer to avoid.

## B. Current Practice – Tracking MAIFI at the Feeder Level

We currently report the MAIFI calculation for our SCADA-enabled feeder level protection devices that have operated within a five minute time period. Given our current distribution infrastructure, in Minnesota we are able to report MAIFI at the distribution feeder level for approximately 92 percent of our retail customers. While we have knowledge of when feeder breakers trip and reclose (and create a momentary outage event) via SCADA, we do not have knowledge of other devices such as field reclosers (a self-contained distribution protective device that can interrupt a short circuit and automatically reclose) operating.

We cannot provide a more fully developed measurement for MAIFI at this time for two reasons. First, not all of the Company's substations in Minnesota are equipped with SCADA equipment. SCADA notes outage events and transmits the information to a central location for data collection. Second, SCADA only captures outage information at the feeder mainline level and above. This means that SCADA does not capture outages that occur on the distribution system between the customer and mid-feeder protective devices. For example, a momentary outage event can occur between the customer and substation when a field recloser operates, the resulting momentary outage is not captured by SCADA at the substation. While some of our non-monitored field devices have counters to note the number of outage events that have occurred since the device was last checked, there is no communications link from the device to a central location to automatically collect that data. Further, even if we were to manually collect the data, we would only be able to see the number of events on the counter, we would not be able to actually determine which outages were momentary and which outages were sustained.

## C. Tracking MAIFI at the Customer Level

In recent years, outside parties have indicated a desire for utilities to track momentary outages at the customer level. Like us, other Minnesota utilities (including Otter Tail Power) are currently tracking MAIFI on a feeder level basis.

As discussed further below, to implement a customer-level MAIFI would require substantial system changes. However, there are two conceivable ways we could implement a customer-level MAIFI on our system: (1) expand our current SCADA system, or (2) install a new metering system. They are both discussed below.

### *1. Expand Existing SCADA System*

The first option for tracking MAIFI on a customer-level basis would be to expand our existing SCADA system to monitor the interrupting devices that can trip and reclose, since not all of our existing equipment has monitoring equipment today.

There are two reasons why a customer would not have momentary outages captured. The first reason is that we have some feeders that do not have a SCADA indication that the breaker has operated. The second reason concerns customers who are located downstream from a feeder recloser. Since we do not have indication of feeder reclosers, we would not have a momentary outage captured for any customer downstream of a recloser. This applies to feeders with and without SCADA.

To achieve visibility into momentary outages due to substation breaker operations requires SCADA or remote monitoring. SCADA is the standard technology and provides many benefits in addition to reporting momentary operations. While SCADA is present at 60% of our Minnesota substations, those substations serve approximately 92% of our Minnesota customers. To implement SCADA at the remaining 88 substations will cost approximately $22 million. The company is adding SCADA to our substations at a rate of several substations per year. An alternative means could be to install remote monitoring on the distribution feeders for approximately $400,000, plus communication costs. However, we note that remote monitoring devices available have a relatively short lifespan – perhaps 10 years – whereas SCADA installations are much more robust.

Additionally, we would need to monitor field reclosers. We have approximately 1,140 reclosers in Minnesota, most of which would need to be replaced with newer models with electronic controls at a cost of approximately $20 million. An alternative means (but with fewer benefits) could be to install remote monitoring on the circuits downstream of the reclosers for approximately $3.5 million, plus communication costs. We are currently evaluating potential communications infrastructure option, and if implemented, the annual communication costs might be reduced.

*2. Advanced Metering Infrastructure*

The second opportunity to track MAIFI at the customer level would be to monitor the momentary interruptions at the customer premise level. This could be included in a corporate strategic approach to advanced metering infrastructure (AMI).

This would require us to install a new metering system that captures real time momentary outages. In addition to the new metering system, we would also need to install a new communication system that would allow us to receive, process, and manage that large amount of data. In other words, implementing MAIFI in this manner would require a significant investment in new metering and communication infrastructure on the Company's system. A discussion of our automated meter reading statistics and strategy is included in our Smart Grid section of this report (Attachment K).

While we are not considering this type of upgrade at this time, we determined that at a very high level the estimated price to replace the meters in Minnesota alone to enable this type of capability would be more than $131 million. This does not include any of the costs associated with the information system changes that would be required to actually use and process this data – like upgraded network facilities, a new database management system, and upgrades to allow interfaces with other systems.

## D. Key Issues

While we recognize that some stakeholders prefer a reliability metric that more closely resembles the customer's experience, we do not believe either alternative for implementing MAIFI is feasible at the current costs.

In addition to the high price tags for these two options, there are other drawbacks as well. First, if the goal is to ultimately reflect the customer's experience and potentially address power quality concerns with this metric, neither of these options would completely achieve those goals. The IEEE definition of MAIFI indicates a protective device has to operate for an event to count as a momentary outage. However, other events can lead to customers believing they had a momentary outage but a protective device never operated, so the event would not count toward the MAIFI metric. For instance, faults on either the transmission or distribution system can cause voltage dips that cause visible flicker or even trip equipment or lighting off-line. So, even after implementing all those investments under either alternative, this index would still not capture the customer's total experience.

In addition, we do not use the MAIFI metric in our overall planning because knowledge of momentary outages provides little benefit when analyzing the overall health of a distribution system as so few devices on the distribution system fail and heal themselves. Once a distribution device has failed to the point that a protective device operates, a repair person must be sent to the site. Most momentary outages on the distribution system are due to tree contact and lightning. However, due to our vegetation management practices, there are few preventable tree contacts. Thus, our current untracked momentary outages are mostly due to lightning, an uncontrollable and unpreventable cause. In the rare instances that a recloser or feeder breaker fails on the distribution system in a manner that results in many momentary outages, we rely on customer calls to notify us of these events.

Transmission outages do not generally directly result in customer outages, due to the redundancy of the overall transmission system in our metro areas. In rural areas most customers will experience a momentary outage for a transmission event. However, transmission outages may cause power quality impacts in any area. Since a momentary outage event requires the voltage to go to zero, not just a brief drop to a low voltage value, most disturbances that would upset the equipment of a customer (and cause the customer to believe they had an outage) are not included in a MAIFI metric, on a customer level or a feeder level.

Finally, as mentioned previously it is generally believed that customers would prefer a momentary interruption over a sustained outage so that is where we focus the majority of our reduction efforts and reliability planning. Put another way, we expect that the majority of our customers would find little value in a reliability metric such as MAIFI that measures an area where they do not seek improvement. Customers get a better understanding of reliability performance and the electric system that serves them through SAIDI and SAIFI since these are generally the areas where the majority of customers seek improvement. For those specific customers who value improvements in momentary interruptions, we generally seek out alternative solutions for them and we work with them on an individual basis as discussed below.

## E. Addressing Power Quality Concerns

Since power quality issues are one aspect that it seems parties are trying to address through implementing a customer-level MAIFI, we note that we work one-on-one with customers expressing power quality concerns such as those customers that experience a drop in voltage. Our first step in resolving these concerns is to conduct a voltage investigation, which we track and report to the MPUC annually. Often this investigation determines that the problem the customer is experiencing is with their internal wiring or the sensitivity of various customer-owned equipment or appliances, and not with the Company's distribution system. We do not track our work with these customers beyond our voltage investigation, but our Area Engineers and other Company representatives often work cooperatively with customers to identify and support customer installation of protective and/or other equipment that will ensure the customers' sensitive equipment is not disturbed by normal, minor fluctuations in distribution system power levels. We additionally note that we offer an annual Power Quality workshop to our large, managed account customers.

## F. Conclusion

We believe our existing systems, reliability metrics and methods for handling customer concerns are working well right now. While we appreciate the increasing interest in MAIFI, we cannot provide a comprehensive and accurate reporting measure without considerable investment in monitoring equipment or meters. We continue to review our operations, equipment, and ability to leverage technology, and will expand our SCADA, metering, and other capabilities as they become cost effective and provide corresponding value to our customers. However, at this time we do not have any plans to further capture MAIFI on our system as the costs do not outweigh the limited benefits.

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

| MAIFI(<=5Mins) | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|
| Metro East | 0.75 | 1.18 | 0.80 | 0.95 | 0.97 |
| Metro West | 0.93 | 1.10 | 0.89 | 1.01 | 0.87 |
| Northwest | 1.12 | 1.38 | 1.59 | 1.42 | 1.82 |
| Southeast | 0.97 | 1.29 | 1.09 | 1.08 | 0.89 |
| **Minnesota** | 0.89 | 1.17 | 0.95 | 1.04 | 1.00 |

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

| MAIFI(<=5Mins) | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|
| Metro East | 0.70 | 0.89 | 0.59 | 0.81 | 0.77 |
| Metro West | 0.77 | 0.72 | 0.52 | 0.76 | 0.65 |
| Northwest | 0.59 | 0.61 | 0.38 | 0.96 | 0.67 |
| Southeast | 0.22 | 0.32 | 0.22 | 0.37 | 0.35 |
| **Minnesota** | 0.67 | 0.72 | 0.50 | 0.76 | 0.66 |

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

| MAIFI(<=5Mins) | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|
| Metro East | 0.70 | 0.97 | 0.69 | 0.85 | 0.80 |
| Metro West | 0.91 | 0.92 | 0.72 | 0.96 | 0.77 |
| Northwest | 1.12 | 1.07 | 0.65 | 1.42 | 1.28 |
| Southeast | 0.94 | 0.95 | 0.87 | 0.95 | 0.78 |
| **Minnesota** | 0.86 | 0.95 | 0.72 | 0.97 | 0.83 |

**MAIFI - <= 5 Minutes Duration**

| Minnesota - MAIFI | January | February | March | April | May | June | July | August | September | October | November | December | YTD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 |
| 2010 With Storms, All Levels, All Causes | 0.04 | 0.01 | 0.02 | 0.10 | 0.10 | 0.18 | 0.21 | 0.17 | 0.10 | 0.09 | 0.10 | 0.07 | 1.17 |
| New Tariff Normalized, No Trans Line, All Causes | 0.02 | 0.00 | 0.02 | 0.06 | 0.08 | 0.08 | 0.14 | 0.12 | 0.06 | 0.04 | 0.06 | 0.04 | 0.72 |
| Annual Normalized, All Levels, All Causes | 0.04 | 0.01 | 0.02 | 0.10 | 0.10 | 0.11 | 0.19 | 0.14 | 0.10 | 0.04 | 0.06 | 0.07 | 0.95 |
| 2009 With Storms, All Levels, All Causes | 0.01 | 0.07 | 0.05 | 0.09 | 0.08 | 0.16 | 0.09 | 0.16 | 0.06 | 0.07 | 0.04 | 0.02 | 0.89 |
| New Tariff Normalized, No Trans Line, All Causes | 0.01 | 0.05 | 0.04 | 0.09 | 0.07 | 0.12 | 0.06 | 0.10 | 0.04 | 0.06 | 0.03 | 0.01 | 0.67 |
| Annual Normalized, All Levels, All Causes | 0.01 | 0.07 | 0.05 | 0.09 | 0.04 | 0.16 | 0.09 | 0.16 | 0.06 | 0.07 | 0.04 | 0.02 | 0.86 |

MAIFI - <= 5 Minutes Duration

| Metro East - MAIFI | January | February | March | April | May | June | July | August | September | October | November | December | YTD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 |
| 2010 With Storms, All Levels, All Causes | 0.06 | 0.00 | 0.03 | 0.09 | 0.13 | 0.18 | 0.22 | 0.12 | 0.08 | 0.09 | 0.10 | 0.06 | 1.18 |
| New Tariff Normalized, No Trans Line, All Causes | 0.02 | 0.00 | 0.03 | 0.08 | 0.13 | 0.08 | 0.19 | 0.09 | 0.08 | 0.05 | 0.08 | 0.05 | 0.89 |
| Annual Normalized, All Levels, All Causes | 0.06 | 0.00 | 0.03 | 0.09 | 0.13 | 0.10 | 0.19 | 0.08 | 0.08 | 0.04 | 0.08 | 0.06 | 0.97 |
| 2009 With Storms, All Levels, All Causes | 0.01 | 0.12 | 0.05 | 0.04 | 0.09 | 0.12 | 0.07 | 0.11 | 0.05 | 0.05 | 0.03 | 0.00 | 0.75 |
| New Tariff Normalized, No Trans Line, All Causes | 0.01 | 0.10 | 0.05 | 0.04 | 0.09 | 0.12 | 0.07 | 0.10 | 0.05 | 0.05 | 0.01 | 0.00 | 0.70 |
| Annual Normalized, All Levels, All Causes | 0.01 | 0.12 | 0.05 | 0.04 | 0.04 | 0.12 | 0.07 | 0.11 | 0.05 | 0.05 | 0.03 | 0.00 | 0.70 |

MAIFI - <= 5 Minutes Duration

| Metro West - MAIFI | January | February | March | April | May | June | July | August | September | October | November | December | YTD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 |
| 2010 With Storms, All Levels, All Causes | 0.01 | 0.01 | 0.01 | 0.09 | 0.06 | 0.20 | 0.19 | 0.18 | 0.10 | 0.11 | 0.09 | 0.05 | 1.10 |
| New Tariff Normalized, No Trans Line, All Causes | 0.01 | 0.01 | 0.01 | 0.07 | 0.06 | 0.09 | 0.13 | 0.15 | 0.07 | 0.04 | 0.05 | 0.04 | 0.72 |
| Annual Normalized, All Levels, All Causes | 0.01 | 0.01 | 0.01 | 0.09 | 0.06 | 0.12 | 0.18 | 0.18 | 0.10 | 0.04 | 0.06 | 0.05 | 0.92 |
| 2009 With Storms, All Levels, All Causes | 0.01 | 0.07 | 0.05 | 0.14 | 0.06 | 0.19 | 0.10 | 0.14 | 0.03 | 0.08 | 0.03 | 0.02 | 0.93 |
| New Tariff Normalized, No Trans Line, All Causes | 0.01 | 0.04 | 0.04 | 0.14 | 0.06 | 0.15 | 0.06 | 0.10 | 0.03 | 0.07 | 0.03 | 0.02 | 0.77 |
| Annual Normalized, All Levels, All Causes | 0.01 | 0.07 | 0.05 | 0.14 | 0.03 | 0.19 | 0.10 | 0.14 | 0.03 | 0.08 | 0.03 | 0.02 | 0.91 |

MAIFI - <= 5 Minutes Duration

| Northwest - MAIFI | January | February | March | April | May | June | July | August | September | October | November | December | YTD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 |
| 2010 With Storms, All Levels, All Causes | 0.04 | 0.00 | 0.02 | 0.16 | 0.23 | 0.16 | 0.19 | 0.17 | 0.11 | 0.09 | 0.05 | 0.15 | 1.38 |
| New Tariff Normalized, No Trans Line, All Causes | 0.03 | 0.00 | 0.01 | 0.01 | 0.12 | 0.12 | 0.11 | 0.10 | 0.00 | 0.00 | 0.05 | 0.04 | 0.61 |
| Annual Normalized, All Levels, All Causes | 0.04 | 0.00 | 0.02 | 0.16 | 0.22 | 0.06 | 0.11 | 0.14 | 0.11 | 0.01 | 0.05 | 0.15 | 1.07 |
| 2009 With Storms, All Levels, All Causes | 0.00 | 0.00 | 0.06 | 0.08 | 0.06 | 0.18 | 0.12 | 0.33 | 0.13 | 0.05 | 0.10 | 0.02 | 1.12 |
| New Tariff Normalized, No Trans Line, All Causes | 0.00 | 0.00 | 0.04 | 0.08 | 0.05 | 0.08 | 0.02 | 0.12 | 0.10 | 0.00 | 0.10 | 0.00 | 0.59 |
| Annual Normalized, All Levels, All Causes | 0.00 | 0.00 | 0.06 | 0.08 | 0.06 | 0.18 | 0.12 | 0.33 | 0.13 | 0.05 | 0.10 | 0.02 | 1.12 |

MAIFI - <= 5 Minutes Duration

| Southeast - MAIFI | January | February | March | April | May | June | July | August | September | October | November | December | YTD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 |
| 2010 With Storms, All Levels, All Causes | 0.09 | 0.00 | 0.02 | 0.07 | 0.09 | 0.13 | 0.29 | 0.23 | 0.10 | 0.02 | 0.15 | 0.09 | 1.29 |
| New Tariff Normalized, No Trans Line, All Causes | 0.04 | 0.00 | 0.00 | 0.03 | 0.02 | 0.02 | 0.10 | 0.04 | 0.02 | 0.02 | 0.02 | 0.01 | 0.32 |
| Annual Normalized, All Levels, All Causes | 0.09 | 0.00 | 0.02 | 0.07 | 0.09 | 0.10 | 0.23 | 0.10 | 0.10 | 0.02 | 0.03 | 0.09 | 0.95 |
| 2009 With Storms, All Levels, All Causes | 0.00 | 0.01 | 0.00 | 0.03 | 0.10 | 0.10 | 0.12 | 0.27 | 0.12 | 0.10 | 0.05 | 0.06 | 0.97 |
| New Tariff Normalized, No Trans Line, All Causes | 0.00 | 0.00 | 0.00 | 0.01 | 0.07 | 0.02 | 0.06 | 0.02 | 0.01 | 0.03 | 0.01 | 0.01 | 0.22 |
| Annual Normalized, All Levels, All Causes | 0.00 | 0.01 | 0.00 | 0.03 | 0.08 | 0.10 | 0.12 | 0.27 | 0.12 | 0.10 | 0.05 | 0.06 | 0.94 |

MAIFI - <= 5 Minutes Duration

| Minnesota - Customer Interruptions | January | February | March | April | May | June | July | August | September | October | November | December | YTD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | |
| 2010 With Storms, All Levels, All Causes | 42,415 | 6,091 | 26,315 | 118,158 | 120,150 | 219,741 | 252,955 | 200,022 | 116,195 | 111,459 | 115,905 | 79,997 | 1,409,403 |
| New Tariff Normalized, No Trans Line, All Causes | 18,807 | 5,540 | 22,938 | 76,115 | 98,951 | 97,647 | 173,134 | 140,044 | 73,401 | 49,073 | 68,102 | 46,748 | 870,500 |
| Annual Normalized, All Levels, All Causes | 42,415 | 6,091 | 26,315 | 118,158 | 118,797 | 126,727 | 222,117 | 164,013 | 115,853 | 46,857 | 77,698 | 79,997 | 1,145,038 |
| CES Cust Served | 1,198,714 | 1,199,720 | 1,200,253 | 1,200,811 | 1,200,350 | 1,200,094 | 1,200,357 | 1,201,480 | 1,201,859 | 1,209,560 | 1,210,858 | 1,211,897 | |
| 2009 With Storms, All Levels, All Causes | 9,991 | 87,100 | 56,442 | 110,638 | 90,128 | 191,933 | 109,664 | 194,657 | 68,261 | 83,133 | 46,076 | 20,810 | 1,068,833 |
| New Tariff Normalized, No Trans Line, All Causes | 9,991 | 57,747 | 50,543 | 107,815 | 83,361 | 145,860 | 70,494 | 113,735 | 51,065 | 66,049 | 31,786 | 13,191 | 801,637 |
| Annual Normalized, All Levels, All Causes | 9,991 | 87,100 | 56,442 | 110,638 | 51,772 | 191,933 | 109,664 | 194,657 | 68,261 | 83,133 | 46,076 | 20,810 | 1,030,477 |
| CES Cust Served | 1,195,002 | 1,195,267 | 1,195,803 | 1,195,655 | 1,195,655 | 1,195,655 | 1,193,630 | 1,193,859 | 1,193,926 | 1,195,559 | 1,196,327 | 1,197,693 | |

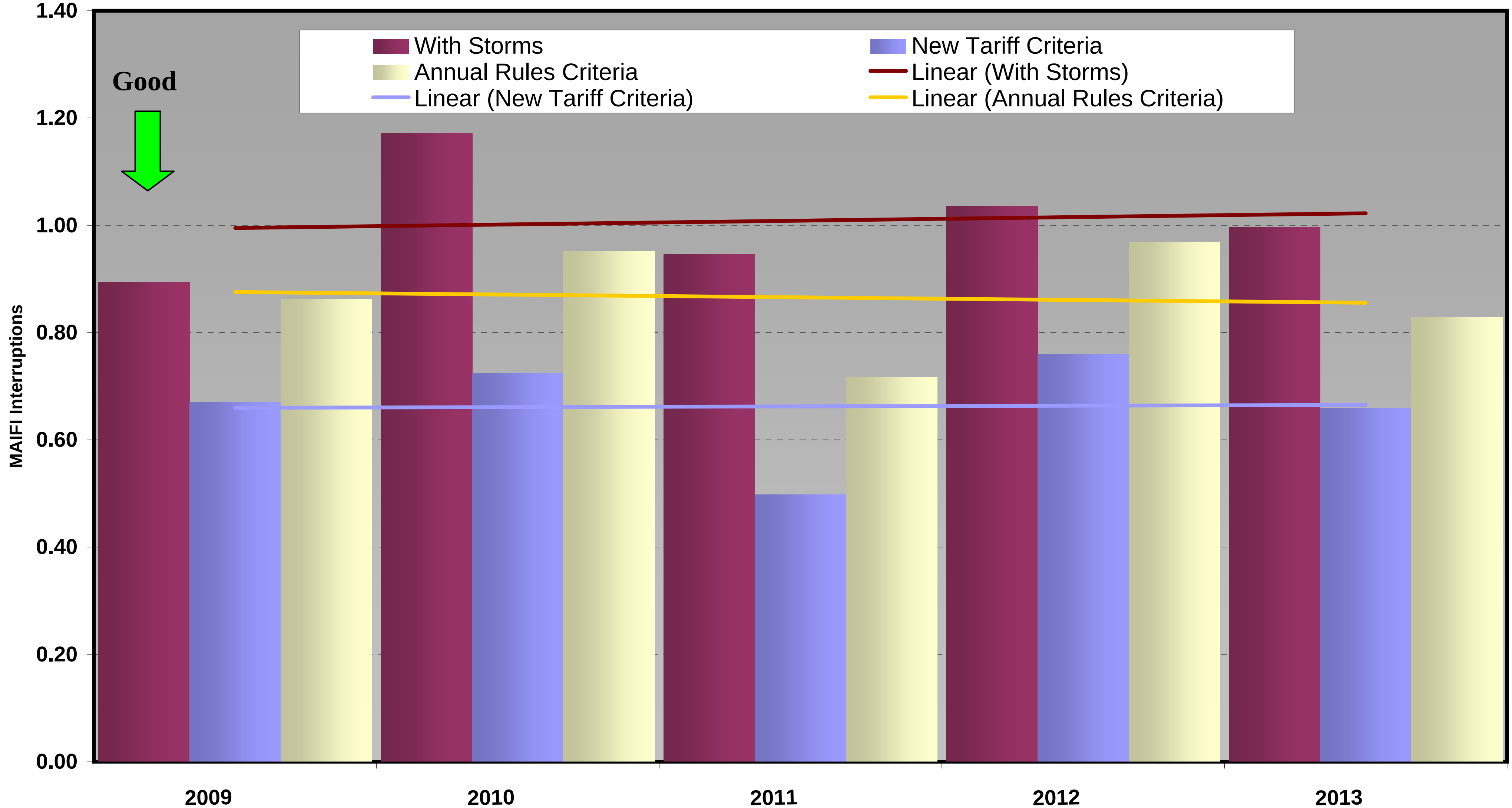
| Metro East - Customer Interruptions | January | February | March | April | May | June | July | August | September | October | November | December | YTD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2013 With Storms, All Levels, All Causes | 17,691 | 21,577 | 16,627 | 49,307 | 44,434 | 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 | |
| 2010 With Storms, All Levels, All Causes | 23,545 | 1,334 | 13,386 | 37,096 | 49,923 | 72,249 | 86,135 | 49,188 | 31,684 | 37,674 | 39,224 | 24,304 | 465,742 |
| New Tariff Normalized, No Trans Line, All Causes | 8,028 | 1,334 | 13,386 | 31,903 | 49,923 | 30,254 | 76,091 | 36,891 | 31,684 | 21,719 | 31,926 | 18,052 | 351,191 |
| Annual Normalized, All Levels, All Causes | 23,545 | 1,334 | 13,386 | 37,096 | 49,923 | 41,393 | 76,955 | 32,852 | 31,342 | 17,897 | 32,169 | 24,304 | 382,196 |
| CES Cust Served | 394,519 | 394,917 | 395,305 | 395,387 | 395,356 | 395,127 | 395,214 | 395,521 | 395,683 | 398,307 | 398,750 | 399,163 | |
| 2009 With Storms, All Levels, All Causes | 1,989 | 45,938 | 21,471 | 16,097 | 36,906 | 48,820 | 28,138 | 42,104 | 20,579 | 20,756 | 10,479 | 1,774 | 295,051 |
| New Tariff Normalized, No Trans Line, All Causes | 1,989 | 37,721 | 21,471 | 16,097 | 36,906 | 48,820 | 26,391 | 39,087 | 20,579 | 20,754 | 2,304 | 1,774 | 273,893 |
| Annual Normalized, All Levels, All Causes | 1,989 | 45,938 | 21,471 | 16,097 | 15,386 | 48,820 | 28,138 | 42,104 | 20,579 | 20,756 | 10,479 | 1,774 | 273,531 |
| CES Cust Served | 392,835 | 392,989 | 393,225 | 393,114 | 393,114 | 393,114 | 392,792 | 392,827 | 392,861 | 393,353 | 393,598 | 394,138 | |

| Metro West - Customer Interruptions | January | February | March | April | May | June | July | August | September | October | November | December | YTD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | |
| 2010 With Storms, All Levels, All Causes | 2,968 | 3,760 | 7,722 | 53,314 | 32,479 | 112,337 | 108,621 | 103,180 | 59,310 | 61,440 | 51,813 | 27,030 | 623,974 |
| New Tariff Normalized, No Trans Line, All Causes | 2,968 | 3,760 | 7,722 | 39,283 | 32,479 | 50,658 | 71,820 | 86,922 | 39,252 | 25,116 | 27,437 | 22,114 | 409,531 |
| Annual Normalized, All Levels, All Causes | 2,968 | 3,760 | 7,722 | 53,314 | 32,479 | 66,770 | 103,957 | 103,180 | 59,310 | 25,367 | 35,405 | 27,030 | 521,262 |
| CES Cust Served | 565,198 | 565,589 | 566,083 | 566,132 | 565,860 | 565,663 | 565,848 | 566,346 | 566,433 | 571,447 | 572,081 | 572,542 | |
| 2009 With Storms, All Levels, All Causes | 8,001 | 40,037 | 28,412 | 80,835 | 33,002 | 109,876 | 53,591 | 81,005 | 18,522 | 44,137 | 17,831 | 10,276 | 525,525 |
| New Tariff Normalized, No Trans Line, All Causes | 8,001 | 20,024 | 24,656 | 80,835 | 31,911 | 85,865 | 35,213 | 58,415 | 18,522 | 41,644 | 17,613 | 10,276 | 432,975 |
| Annual Normalized, All Levels, All Causes | 8,001 | 40,037 | 28,412 | 80,835 | 19,478 | 109,876 | 53,591 | 81,005 | 18,522 | 44,137 | 17,831 | 10,276 | 512,001 |
| CES Cust Served | 563,921 | 563,919 | 564,190 | 564,183 | 564,183 | 564,183 | 563,039 | 562,981 | 562,862 | 563,702 | 564,083 | 564,658 | |

| Northwest - Customer Interruptions | | January | February | March | April | May | June | July | August | September | October | November | December | YTD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | |
| 2010 | With Storms, All Levels, All Causes | 4,454 | 446 | 2,245 | 18,635 | 27,098 | 18,574 | 22,232 | 19,481 | 12,691 | 10,155 | 5,884 | 17,443 | 159,338 |
| | New Tariff Normalized, No Trans Line, All Causes | 3,379 | 446 | 1,312 | 773 | 14,140 | 14,035 | 12,875 | 11,687 | 296 | 77 | 5,884 | 5,106 | 70,010 |
| | Annual Normalized, All Levels, All Causes | 4,454 | 446 | 2,245 | 18,635 | 25,745 | 6,526 | 12,409 | 16,197 | 12,691 | 1,432 | 5,884 | 17,443 | 124,107 |
| | CES Cust Served | 115,187 | 115,311 | 114,881 | 115,413 | 115,341 | 115,598 | 115,666 | 115,813 | 115,843 | 115,904 | 115,961 | 116,034 | |
| 2009 | With Storms, All Levels, All Causes | 1 | | 6,559 | 9,566 | 7,398 | 20,304 | 13,605 | 38,111 | 14,489 | 5,714 | 11,139 | 1,846 | 128,732 |
| | New Tariff Normalized, No Trans Line, All Causes | 1 | | 4,416 | 9,566 | 6,104 | 8,905 | 1,819 | 14,268 | 11,030 | 1 | 11,139 | | 67,249 |
| | Annual Normalized, All Levels, All Causes | 1 | | 6,559 | 9,566 | 7,398 | 20,304 | 13,605 | 38,111 | 14,489 | 5,714 | 11,139 | 1,846 | 128,732 |
| | CES Cust Served | 114,818 | 114,892 | 114,919 | 114,876 | 114,876 | 114,876 | 114,659 | 114,755 | 114,769 | 114,875 | 114,947 | 115,111 | |

| Southeast - Customer Interruptions | | January | February | March | April | May | June | July | August | September | October | November | December | YTD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | |
| 2010 | With Storms, All Levels, All Causes | 11,448 | 551 | 2,962 | 9,113 | 10,650 | 16,581 | 35,967 | 28,173 | 12,510 | 2,190 | 18,984 | 11,220 | 160,349 |
| | New Tariff Normalized, No Trans Line, All Causes | 4,432 | | 518 | 4,156 | 2,409 | 2,700 | 12,348 | 4,544 | 2,169 | 2,161 | 2,855 | 1,476 | 39,768 |
| | Annual Normalized, All Levels, All Causes | 11,448 | 551 | 2,962 | 9,113 | 10,650 | 12,038 | 28,796 | 11,784 | 12,510 | 2,161 | 4,240 | 11,220 | 117,473 |
| | CES Cust Served | 123,810 | 123,903 | 123,984 | 123,879 | 123,793 | 123,706 | 123,629 | 123,800 | 123,900 | 123,902 | 124,066 | 124,158 | |
| 2009 | With Storms, All Levels, All Causes | | 1,125 | | 4,140 | 12,822 | 12,933 | 14,330 | 33,437 | 14,671 | 12,526 | 6,627 | 6,914 | 119,525 |
| | New Tariff Normalized, No Trans Line, All Causes | | 2 | | 1,317 | 8,440 | 2,270 | 7,071 | 1,965 | 934 | 3,650 | 730 | 1,141 | 27,520 |
| | Annual Normalized, All Levels, All Causes | | 1,125 | | 4,140 | 9,510 | 12,933 | 14,330 | 33,437 | 14,671 | 12,526 | 6,627 | 6,914 | 116,213 |
| | CES Cust Served | 123,428 | 123,467 | 123,469 | 123,482 | 123,482 | 123,482 | 123,140 | 123,296 | 123,434 | 123,629 | 123,699 | 123,786 | |

# MINNESOTA MAIFI

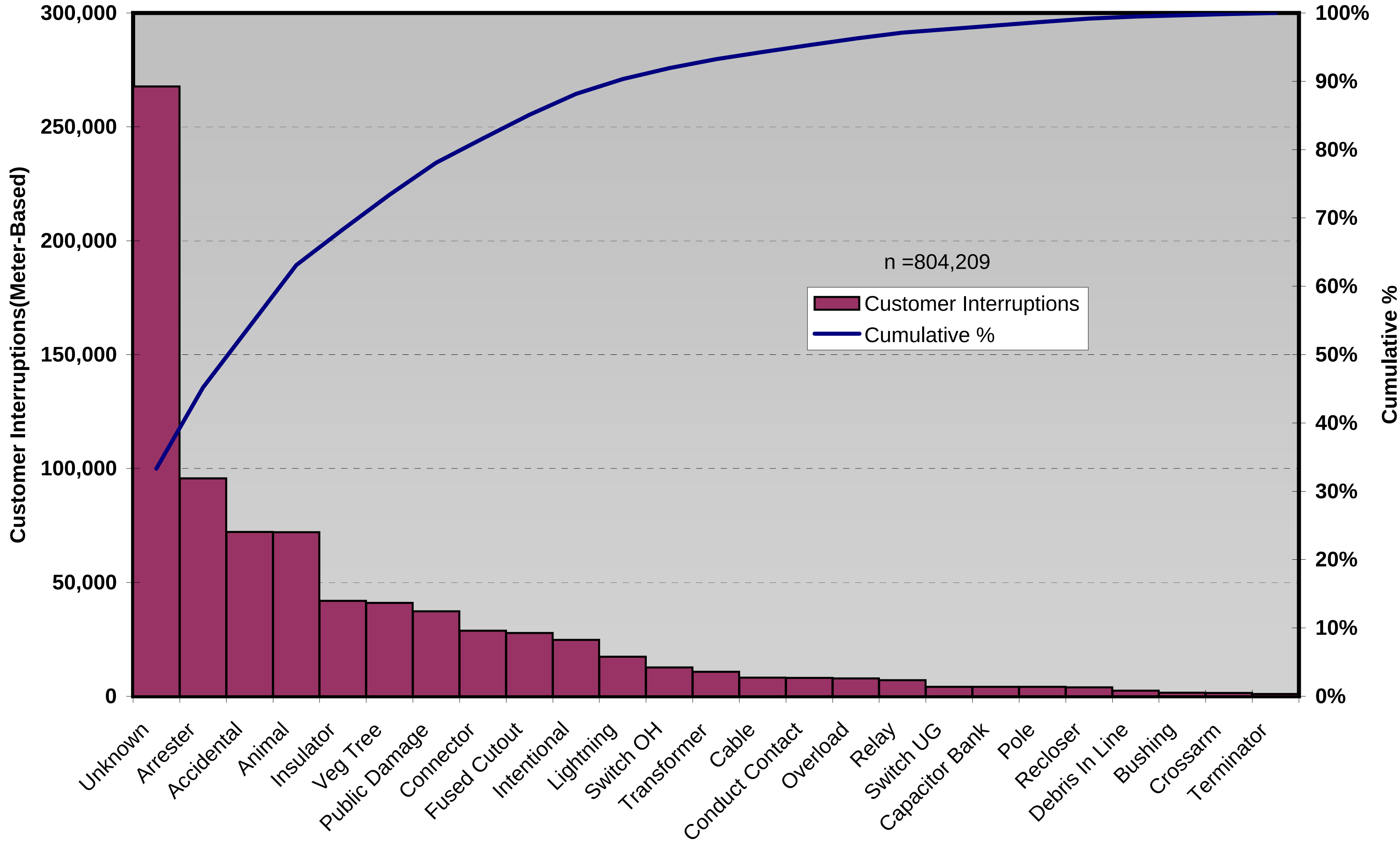



*With Storms - No normalization, All Levels, All Causes*
*New Tariff - IEEE Normalization after removing Trans Lines, All Causes*

*Annual Rules - Normalized on Count of Outages, 5 year -rolling 3 sigma, All Levels, All Causes*
*Momentary events <= 5 Minutes*

# MINNESOTA MAIFI

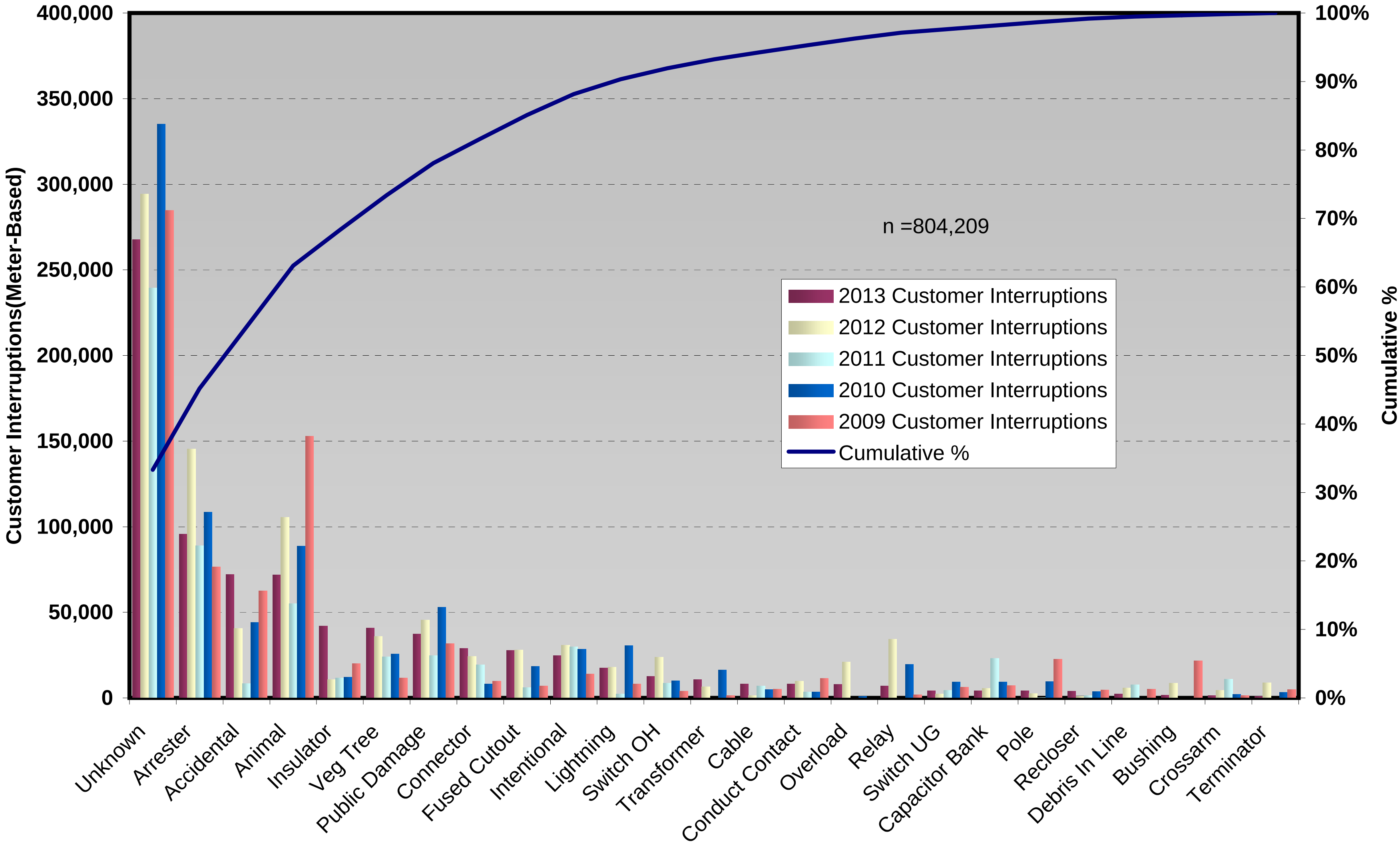
## 2013, MN Tariff, No Transmission Lines, All Causes




*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*

**Meter Equipment Malfunctions Tariff Annual Report 2013**



| Utility | Work_Resolution | Data | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Grand Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Electric** | INVESTIGATE AND REMEDIATE | Order Count | 156 | 126 | 147 | 131 | 126 | 142 | 216 | 232 | 187 | 177 | 165 | 135 | 1,940 |
| | | Average Days | 3.03 | 2.79 | 2.80 | 2.93 | 2.62 | 2.73 | 3.15 | 2.72 | 2.92 | 3.11 | 3.27 | 3.79 | 2.99 |
| | | Min Days | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| | | Max of Days | 6 | 6 | 7 | 6 | 5 | 5 | 9 | 7 | 5 | 10 | 7 | 6 | 10 |
| | | StdDev of Days | 1.29 | 1.37 | 1.16 | 1.39 | 1.09 | 1.09 | 1.51 | 1.13 | 1.20 | 1.29 | 1.46 | 1.60 | 1.33 |
| | INVESTIGATE AND REFER | Order Count | 15 | 26 | 20 | 29 | 22 | 13 | 28 | 24 | 21 | 20 | 13 | 32 | 263 |
| | | Average Days | 3.53 | 3.31 | 2.60 | 3.17 | 2.68 | 2.46 | 3.64 | 2.42 | 3.71 | 3.20 | 3.00 | 3.38 | 3.13 |
| | | Min Days | 2 | 1 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 1 | 1 | 1 | 1 |
| | | Max of Days | 6 | 5 | 4 | 9 | 5 | 5 | 9 | 4 | 5 | 6 | 6 | 6 | 9 |
| | | StdDev of Days | 1.30 | 1.29 | 0.88 | 1.63 | 1.17 | 1.13 | 2.09 | 0.93 | 1.23 | 1.44 | 1.58 | 1.16 | 1.42 |
| | REMEDIATE UPON REFERRAL | Order Count | | 1 | 1 | | | | 2 | 1 | 2 | 2 | | 2 | 11 |
| | | Average Days | | 0.00 | 1.00 | | | | 0.00 | 0.00 | 0.00 | 0.00 | | 0.50 | 0.18 |
| | | Min Days | | 0 | 1 | | | | 0 | 0 | 0 | 0 | | 0 | 0 |
| | | Max of Days | | 0 | 1 | | | | 0 | 0 | 0 | 0 | | 1 | 1 |
| | | StdDev of Days | | | | | | | 0.00 | | 0.00 | 0.00 | | 0.71 | 0.40 |
| Electric Order Count | | | 171 | 153 | 168 | 160 | 148 | 155 | 246 | 257 | 210 | 199 | 178 | 169 | 2,214 |
| Electric Average Days | | | 3.08 | 2.86 | 2.76 | 2.98 | 2.63 | 2.70 | 3.18 | 2.68 | 2.97 | 3.09 | 3.25 | 3.67 | 2.99 |
| Electric Min Days | | | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Electric Max of Days | | | 6 | 6 | 7 | 9 | 5 | 5 | 9 | 7 | 5 | 10 | 7 | 6 | 10 |
| Electric StdDev of Days | | | 1.30 | 1.38 | 1.13 | 1.43 | 1.10 | 1.09 | 1.61 | 1.12 | 1.25 | 1.33 | 1.47 | 1.56 | 1.36 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Gas** | INVESTIGATE AND REMEDIATE | Order Count | 116 | 145 | 162 | 203 | 159 | 115 | 161 | 127 | 156 | 159 | 86 | 126 | 1,715 |
| | | Average Days | 3.15 | 3.53 | 3.02 | 2.93 | 3.04 | 2.79 | 2.89 | 2.80 | 2.92 | 2.70 | 3.29 | 3.78 | 3.05 |
| | | Min Days | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| | | Max of Days | 11 | 8 | 8 | 6 | 11 | 10 | 6 | 8 | 7 | 7 | 7 | 8 | 11 |
| | | StdDev of Days | 1.85 | 1.67 | 1.39 | 1.41 | 1.59 | 1.32 | 1.45 | 1.44 | 1.46 | 1.41 | 1.59 | 1.83 | 1.55 |
| | INVESTIGATE AND REFER | Order Count | 60 | 115 | 105 | 132 | 94 | 59 | 75 | 71 | 71 | 69 | 37 | 48 | 936 |
| | | Average Days | 2.75 | 3.13 | 2.77 | 3.14 | 2.72 | 3.02 | 3.15 | 2.75 | 2.99 | 2.94 | 3.24 | 3.90 | 3.01 |
| | | Min Days | 1 | 1 | 0 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 0 |
| | | Max of Days | 7 | 8 | 6 | 6 | 7 | 6 | 6 | 6 | 6 | 6 | 7 | 8 | 8 |
| | | StdDev of Days | 1.28 | 1.48 | 1.15 | 1.12 | 1.15 | 1.06 | 1.44 | 1.09 | 1.19 | 1.06 | 1.53 | 1.68 | 1.28 |
| | REMEDIATE UPON REFERRAL | Order Count | 31 | 84 | 89 | 111 | 85 | 51 | 50 | 52 | 27 | 22 | 16 | 17 | 635 |
| | | Average Days | 4.74 | 3.07 | 2.58 | 2.54 | 5.24 | 2.41 | 3.72 | 2.13 | 2.37 | 3.50 | 3.75 | 3.71 | 3.22 |
| | | Min Days | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 |
| | | Max of Days | 15 | 9 | 8 | 11 | 14 | 11 | 12 | 10 | 7 | 12 | 11 | 11 | 15 |
| | | StdDev of Days | 4.20 | 2.66 | 2.11 | 2.37 | 4.11 | 2.48 | 2.80 | 1.85 | 1.98 | 2.81 | 3.26 | 3.06 | 2.98 |
| Gas Order Count | | | 207 | 344 | 356 | 446 | 338 | 225 | 286 | 250 | 254 | 250 | 139 | 191 | 3,286 |
| Gas Average Days | | | 3.27 | 3.28 | 2.84 | 2.89 | 3.50 | 2.76 | 3.10 | 2.64 | 2.88 | 2.84 | 3.33 | 3.80 | 3.07 |
| Gas Min Days | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Gas Max of Days | | | 15 | 9 | 8 | 11 | 14 | 11 | 12 | 10 | 7 | 12 | 11 | 11 | 15 |
| Gas StdDev of Days | | | 2.32 | 1.91 | 1.55 | 1.65 | 2.61 | 1.61 | 1.78 | 1.47 | 1.46 | 1.51 | 1.83 | 1.92 | 1.86 |
| | | | | | | | | | | | | | | | |
| Total E & G Order Count | | | 378 | 497 | 524 | 606 | 486 | 380 | 532 | 507 | 464 | 449 | 317 | 360 | 5,500 |
| Total E & G Average Days | | | 3.18 | 3.15 | 2.81 | 2.91 | 3.24 | 2.74 | 3.14 | 2.66 | 2.92 | 2.95 | 3.29 | 3.74 | 3.04 |
| Total E & G Days Min | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total E & G Days Max | | | 15 | 9 | 8 | 11 | 14 | 11 | 12 | 10 | 7 | 12 | 11 | 11 | 15 |
| Total E & G Days Std Dev | | | 1.92 | 1.77 | 1.43 | 1.59 | 2.29 | 1.42 | 1.70 | 1.30 | 1.37 | 1.44 | 1.63 | 1.76 | 1.67 |

# EXCLUSIONS

## Meter Access

| Utility | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Grand Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Electric Order Count | 6 | 11 | 40 | 47 | 48 | 37 | 38 | 5 | 33 | 11 | 5 | 6 | 287 |
| Electric Average Days | 168.67 | 121.73 | 182.83 | 151.45 | 72.31 | 61.41 | 69.71 | 11.20 | 56.09 | 55.82 | 126.60 | 59.50 | 99.95 |
| | | | | | | | | | | | | | |
| Gas Order Count | 23 | 43 | 131 | 98 | 94 | 64 | 23 | 30 | 32 | 43 | 18 | 9 | 608 |
| Gas Average Days | 107.48 | 68.53 | 109.31 | 96.40 | 67.93 | 69.58 | 23.91 | 57.70 | 55.91 | 35.81 | 44.17 | 45.11 | 77.03 |
| | | | | | | | | | | | | | |
| Total E & G Order Count | 29 | 54 | 171 | 145 | 142 | 101 | 61 | 35 | 65 | 54 | 23 | 15 | 895 |
| Total E & G Average Days | 120.14 | 79.37 | 126.50 | 114.24 | 69.41 | 66.58 | 52.44 | 51.06 | 56.00 | 39.89 | 62.09 | 50.87 | 84.38 |

## Environmental

| Utility | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Grand Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Electric Order Count | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| Electric Average Days | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 |

**Below are our responses to the Commission's February 18, 2014 Notice Requesting Information from Xcel on Substation Equipment Reliability in Docket No. E002/M-14-131**

**1. Have any employees or contractors of Xcel Energy complained of equipment problems at any Minnesota substation in the last 5 years? What is the current status of these concerns and what is Xcel's position as of today?**

Employee allegations of equipment problems led to an investigation by Minnesota Occupational Safety and Health Administration (OSHA) related to oil filled equipment in 2008. Minnesota OSHA never actually investigated onsite at any of the substations, but relied on photographic evidence in issuing a citation on January 27, 2009. The Minnesota OSHA citation was for a violation of the general duty clause, claiming that 13 pieces of Company equipment at three substations were low in oil.

Xcel Energy contested the citations claiming that the claims of improper maintenance were untrue. Xcel Energy and Minnesota OSHA settled the matter in March of 2011. The settlement agreement reduced the violation from serious to non-serious and reduced the penalty from $3,000 to $2,500. The citation language was also changed in the settlement agreement to better reflect the actual facts, which were that not all substation equipment alleged to be in need of repair actually was in need of repair, and that Xcel Energy hadn't neglected to repair equipment that needed repair.

**[TRADE SECRET BEGINS**

**TRADE SECRET ENDS]**

As discussed in our responses to the remaining questions below, our position today is that we do not believe the allegations raised by the individual with these other agencies had any merit. Although the Company has not had the opportunity to review the complaint made in the current MPUC docket, to the extent there is a similar basis we do not believe this allegation has any merit either.

**2. Does Xcel Energy have a preventive maintenance program for its substation major equipment such as breakers, transformers and relay systems? If so, please describe how the program is implemented. Does Xcel ever operate its equipment on condition, also known as "operate to fail", then repair or replace failed equipment?**

Yes, Xcel Energy has a rigorous and thorough preventive maintenance and inspection program for our substation major equipment. We have implemented an Adaptive Reliability Centered Maintenance (ARCM) Program for preventive maintenance on circuit breakers and transformers. This program optimizes maintenance based on factors such as operational experience with different types of equipment performance, number of operations for breakers, number of fault interruptions for breakers and more. ARCM works from an algorithm that generates a prioritized list of assets most in need of maintenance and what the maintenance activity should be. A workbook containing the algorithm employs a formula that uses as many as 26 pieces of static and dynamic information to support the calculation of what Xcel Energy calls the "Maintenance Number" (Mn). The Mn is calculated independently for each asset currently in the program inside the fence of every substation in our system. The passage of time and accumulation of operational activity are examples of influences that will cause changes to the Mn. Assets receive maintenance, as determined by calculated Mn – assets with the highest Mn's receive maintenance before assets with lower Mn's.

This method of determining an annual maintenance portfolio puts manpower and monetary resources on the substation assets most logically in need of maintenance. The ARCM program is data driven – we no longer use a uniformly defined period-based maintenance program that has the potential of over-spending to maintain lightly used equipment or risking asset failure by under-maintaining other equipment that experiences heavy use .

In addition, all substation oil-filled equipment undergoes a detailed and well documented maintenance program which examines oil levels as follows:

(i) Annual Inspections;
(ii) Two infrared scans of substation per year;
(iii) Opportunistic inspections by crews who have other work in these substations; and
(iv) Reports by employees.

There are approximately 5,000 specific oil-filled devices on the NSP system. The main purpose of the maintenance and inspection program is to identify and correct potential deficiencies before equipment failure occurs.

Our relay system maintenance is performed pursuant to the provisions of reliability standards (specifically PRC-005) adopted by NERC and approved by FERC that require that transmission-owning utilities adopt and implement programs to test and maintain protection systems, including (but not limited to) relays. Xcel Energy has a comprehensive protection system maintenance program in place to both maintain the reliability of the Company's transmission system and comply with NERC standards. NSP's compliance with these NERC requirements was audited by MRO in February 2014 with no findings of non-compliance. NSP's compliance with these NERC requirements was also audited in 2008 and 2011, with no findings of non-compliance regarding transmission substations.

With regard to the "operate to fail" question, Xcel Energy does not operate its substation equipment to failure, although despite our application of good utility practice and prudent engineering judgment, failures sometimes occur.

As described above, the Company has programs in place to test and maintain circuit breakers, transformers, and relays (and other protection systems) to ensure these facilities are in good working order. We plan to replace such equipment at the end of its useful life.

**3. Does Xcel have a routine inspection program in place to inspect substation equipment for the purpose of identifying and to correct potential deficiencies, before equipment failure occurs? One recurring area of concern appears to be low oil level inside transformers and breakers or equipment leaking oil. Does Xcel employ an automated remote monitoring of equipment oil level using SCADA technology to allow for early detection of low oil condition?**

Yes. In addition to the ARCM program described above, substation inspections are performed on a scheduled basis. These inspections check site cleanliness, equipment oil levels and existence of weeps, seeps and leaks, circuit breaker operational counter readings, meter readings, weed control, rodent control, equipment grounding, and overall equipment integrity. Action items that are identified from these inspections are noted and addressed on a prioritized basis according to operational experience with the equipment.

With respect to questions about low oil levels, please see our response to question two. Oil level gauge readings will vary over the course of a year depending on ambient temperatures, as the oil shrinks or expands. A low gauge reading also does not mean the tank on an oil-filled device is empty. The tank on a transformer may include thousands of gallons of oil, and the "sight glass" gauge does not provide an indication that the oil level is actually low. Such a reading means that the *monitored* portion of the oil—a relatively small percentage of the total oil—is below the volume required to register a gauge reading.

With regards to the automated remote monitoring question, most major substation transformers have oil level sensing alarms, and in some cases automatic isolation for low oil conditions. If a low oil situation were to occur, an alarm would be sent, via our Supervisory Control and Data Acquisition (SCADA) system, to a 24/7/365 manned control center. If an alarm were to occur, a maintenance person could be dispatched to investigate. Further, as noted in response to question two, routine substation inspections are performed to evaluate equipment oil levels and presence of oil weeps, seeps, or leaks.

**4. Does Xcel have a procedure in place (such as a Safety Manual) to describe which substation jobs require a two-person operation versus single operator?**

Though NSP's practices are in accordance with industry standards, NSP has no written procedures describing which substation jobs require multiple workers versus a single operator.

There are a number of employee classifications that perform work on our substations. Although most classifications work individually, the Company has an explicit "safety first" philosophy and all employees are aware that should they need assistance on the job, they can contact the dispatch function and a second employee will be sent to assist.

**5. In the last 5 years, has Xcel experienced unusual problems with its equipment, or had substandard equipment, at any of its substations in Minnesota? If so, what action has Xcel taken?**

No. The Company does not believe it has experienced "unusual" problems with its substation equipment. As noted in the response to question two, substation equipment will sometimes fail unexpectedly, even if regular maintenance is provided consistent with good utility practices. The transmission system is designed and operated with redundancies to minimize the impact of failures of individual facilities or components.

Many of the substations on the NSP system have been in place for many years. The Transmission "system refresh" investments that have been discussed in prior rate cases and the current 2014 test year rate case are examples of investments the Company is making to replace aging substation and transmission line facilities. In addition, the ARCM program, introduced in 2013, provides for a systematic process to maintain the existing equipment that is most likely to need maintenance.

**6. Any other issues deemed relevant to this inquiry.**

We are not aware of any other issues deemed relevant to this inquiry.

## CERTIFICATE OF SERVICE

I, Theresa Sarafolean, 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-14-131**
**Miscellaneous Electric Service List**

Dated this 1st day of April 2014

/s/
________________________________
Theresa Sarafolean

| First Name | Last Name | Email | Company Name | Address | Delivery Method | View Trade Secret | Service List Name |
|---|---|---|---|---|---|---|---|
| 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 |
| 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 |
| James J. | Bertrand | james.bertrand@leonard.com | Leonard Street & Deinard | 150 South Fifth Street, 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 |
| Michael | Bradley | mike.bradley@lawmoss.com | Moss & Barnett | Suite 4800<br>90 S 7th St<br>Minneapolis,<br>MN<br>55402-4129 | 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, 1400 BRM Tower<br>St. Paul,<br>MN<br>55101 | 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 |
| Lloyd | Grooms | lgrooms@winthrop.com | Winthrop and Weinstine | Suite 3500<br>225 South Sixth Street<br>Minneapolis,<br>MN<br>554024629 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |
| Burl W. | Haar | burl.haar@state.mn.us | Public Utilities Commission | Suite 350<br>121 7th Place East<br>St. Paul,<br>MN<br>551012147 | 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 |

| First Name | Last Name | Email | Company Name | Address | Delivery Method | View Trade Secret | Service List Name |
|---|---|---|---|---|---|---|---|
| Alan | Jenkins | aj@jenkinsatlaw.com | Jenkins at Law | 2265 Roswell Road Suite 100 Marietta, GA 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 | 90 South 7th Street Suite #4800 Minneapolis, MN 554024129 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |
| Mark J. | Kaufman | mkaufman@ibewlocal949.org | IBEW Local Union 949 | 12908 Nicollet Avenue South Burnsville, MN 55337 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |
| Thomas G. | Koehler | N/A | Local Union #160, IBEW | 2909 Anthony Ln Minneapolis, MN 55418-3238 | Paper 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 80 S 8th St 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 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 445 Minnesota St 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 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 Suite 4200 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 300 200 South Sixth Street Minneapolis, MN 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 |
|---|---|---|---|---|---|---|---|
| Richard | Savelkoul | rsavelkoul@martinsquires.com | Martin & Squires, P.A. | 332 Minnesota Street Ste W2750<br><br>St. Paul,<br>MN<br>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><br>St. Paul,<br>MN<br>55102 | Electronic Service | No | GEN_SL_Northern States Power Company dba Xcel Energy-Elec_Xcel Miscl Electric |
| 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@leonard.com | Leonard Street and Deinard | 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><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 |