414 Nicollet Mall
Minneapolis, Minnesota 55401-1993

April 3, 2020

PUBLIC DOCUMENT
NOT PUBLIC DATA EXCISED

—**VIA ELECTRONIC FILING**—

Will Seuffert
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, Minnesota 55101

RE: ERRATA TO 2019 ANNUAL SERVICE QUALITY REPORT AND PETITION
REQUEST FOR LATE FILING
DOCKET NO. E002/M-20-406

Dear Mr. Seuffert:

On April 1, 2020, Northern States Power Company, doing business as Xcel Energy, filed its Annual Report in the above referenced matter. After the filing, we realized the reliability related maps were inadvertently omitted from the filing. For clarity, we are also correcting some minor labeling errors and have noted those updates in red font. All changes are outlined below and have been incorporated into the attached resubmission of our full filing from April 1. We apologize for this error.

- SAIDI Maps for our MN Service Territory and the Metro area
- CEMI Maps for our MN Service Territory and the Metro area
- Table 13 – corrected labeling from NSP to MN
- Page 62 reference changed from Attachment I to Attachment L
- Attachment E: reference letters (A,B,C,D) added to the feeder lists at the bottom document

In addition, we are requesting approval for late filing. As required by Minn. R. 7829.0420, sub. 2, the filing was submitted on April 1 pursuant to Minn. R. 7826.0500, subp. 1 prior to the deadline of 4:30; however, due to internet connections from remote working due to current conditions, the filing was not received by eDockets until 4:33 p.m.

We have electronically filed this document with the Commission, and copies have been served on the parties on the attached service list. Please contact Pamela Gibbs at pamela.k.gibbs@xcelenergy.com or (612) 330-2889, or myself at gail.baranko@xcelenergy.com or 612-330-6935 if you have any questions regarding this filing.

Sincerely,

/s/

GAIL A. BARANKO
REGULATORY MANAGER
Enclosure
c: Service List

STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

Katie J. Sieben	Chair
Valerie Means	Commissioner
Matthew Schuerger	Commissioner
John Tuma	Commissioner

IN THE MATTER OF NORTHERN STATES POWER COMPANY'S ANNUAL REPORT ON SAFETY, RELIABILITY, AND SERVICE QUALITY FOR 2019; AND PETITION FOR APPROVAL OF ELECTRIC RELIABILITY STANDARDS FOR 2020	DOCKET NO. E002/M-20-___ **ANNUAL REPORT AND PETITION**

INTRODUCTION

Northern States Power Company, doing business as Xcel Energy, submits to the Minnesota Public Utilities Commission the attached Annual Report on our safety, reliability, and service quality performance for 2019. 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 2020, as required under Minn. R. 7826.0600. In addition, the Annual Report contains several compliance items from various dockets. Finally, this petition requests a rule variance of Minn. R. 7826.0500, subpart 1.G., which requires in relevant part a copy of each report the Company had previously provided to the Commission's Consumer Affairs Office for any major service interruption.

We respectfully request that the Commission accept our annual report for 2019, approve our proposed reliability standards for 2020, and grant the requested rule variance.

I. SUMMARY OF FILING

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

II. SERVICE ON OTHER PARTIES

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

III. GENERAL FILING INFORMATION

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

A. Name, Address, and Telephone Number of Utility

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

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

Mara K. Ascheman
Senior Attorney
Xcel Energy
414 Nicollet Mall – 401 8th Floor
Minneapolis, MN 55401
(612) 215-4605

C. Date of Filing and Date Standards Take Effect

The date of this filing is April 1, 2020. Xcel Energy requests that the Commission accept the attached annual report on the Company's performance for 2019. Additionally, we request that our proposed reliability standards be approved for the year 2020. Finally, we ask that the Commission grant the requested rule variance to Minn. R. 7826.0500 subpart 1.G.

Our report on reliability performance for 2020, subject to the standards approved by the Commission, will be filed on or before April 1, 2021, as required under Minn. R. 7826.0500, subp. 1, for the January 1 through December 31, 2020 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 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

Gail Baranko
Regulatory Manager
Xcel Energy
414 Nicollet Mall – 401 7th Floor
Minneapolis, MN 55401
(612) 330-6935

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. Over time, the Commission added additional compliance obligations through various Order Points.

Previously, the Company provided the requested information in the body of this petition, along with over a dozen attachments. The attachments were organized (generally) in the order we received new compliance obligations from the Commission, meaning, for example, that to understand the whole picture on a certain reliability metric (e.g., MAIFI), a person needed to look at not only the petition, but also numerous, non-sequentially numbered attachments. This year, we have separated the Annual Report from our petition, and reorganize the Annual Report to put (1) like information together and (2) more information in the body of the Annual Report, instead of attachments. While we hope that this reorganization will eventually help all interested stakeholders be able to see the bigger picture of our safety, reliability and service quality performance, we understand that it might create more work this year for reviewers who are customarily used to finding certain data in a certain location. To the extent it is necessary, we are committed to help reviewers navigate the new organization.

In this petition, we request the Commission do three things:

- Accept the Company's Annual Report for 2019,
- Approve our proposed reliability standards for 2020, and
- Grant the requested rule variance.

Each of these are discussed in more detail below.

A. Accept the Company's Annual Report for 2019

Attached to this filing is the Company's Annual Report, detailing the Company's safety, reliability and service quality performance for 2019. The Company's Annual Report, and its accompanying attachments, is consistent with the Minnesota service quality reporting rules found in Minn. R. Ch. 7826, as well as the various Commission Order Points adopted over the years. In addition to responding to the new compliance obligations ordered from the 2017 Annual Report and the 2018 Annual Report, the Company has also added a compliance matrix to help reviewers find the information they are looking for within the Annual Report. We respectfully request the Commission accept the Company's Annual Report for 2019.

B. Approve Proposed Reliability Standards for 2020

Minn. R. 7826.0600, subp. 1, requires the Company to propose 2020 standards for SAIFI, SAIDI, and CAIDI. As the Commission is aware, these standards have traditionally been based on a rolling five-year historical average for each metric by work center. The Commission's January 28, 2020 Order in E-002/M-19-261 also requested at Order Point 4 that each utility "discuss transitioning from a five year rolling average method of proposing SAIDI, SAIFI, and CAIDI standards, to standards that are similar to the second quartile rank of similarly sized investor-owned utilities under either the IEEE benchmarking study or using United States Energy Information Administration (EIA) reliability data."

As described in more detail in our Annual Report, the Company supports a transition to the nationally recognized IEEE Distribution Reliability Working Group survey for the large utility group as the benchmark for second quartile reliability performance for purposes for setting standards for SAIDI, SAIFI, and CAIDI. That said, its important to note that the IEEE benchmarking data for the previous year is not available until third quarter of the following year (so 2019 benchmarking data will not be available until third quarter 2020). This creates two timing-related issues that interested stakeholders will need to work together to decide how to handle. First,

how should the Commission set standards for the coming year in light of the fact benchmarking data will not be available until third quarter of the year following the reporting year. Second, how should the Commission compare actual performance to the benchmarked data when the benchmarking data for the same time period will not be known until several months after the Company's annual service quality report is due.

Based on the historical method of setting standards and the Commission's request to consider a transition to new standards, the Company proposes two alternative standards for the Commission's consideration. We respectfully request that the Commission select one of the two options, as opposed to setting two sets of standards for 2020.

Option 1: Standards Set on Historical Method

Option 1 sets standards for 2020 using the 2.5 beta method outlined in IEEE 1366-2012.

These standards for SAIDI and SAIFI are the average of the five years of historical data. 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.

Option 1: Proposed 2020 Reliability Standards*

		Proposed Standard
Metro East	SAIDI	89.95
	SAIFI	0.84
	CAIDI	106.91
Metro West	SAIDI	79.37
	SAIFI	0.79
	CAIDI	100.55
Northwest	SAIDI	87.11
	SAIFI	0.75
	CAIDI	115.72
Southeast	SAIDI	94.82
	SAIFI	0.76
	CAIDI	122.04

*****Standards calculated with data using IEEE method for normalization and not comparable to standards set previous to those set in Docket No. E002/M-19-261. The standards for the Southeast region are consistent with the 2019 standards approved in Docket No. E002/M-19-261 with SAIDI & SAIFI locked at the 2017 level and CAIDI locked at 2018 level.

Option 2: Standards Set based on IEEE Benchmarking Data

In our write up to the Commission's January 28, 2020 Order Point 4, we suggest that due to the timing of IEEE benchmarking data outlined above, the standards could be set based on a five-year average of IEEE benchmarking data and standardized in the method consistent with IEEE workgroup guidelines.

Based on this methodology, the standards for each work center would be:

Option 2: Proposed 2020 Reliability Standards*

		Proposed Standard
All Work Centers	SAIDI	109
	SAIFI	0.99
	CAIDI	111

C. Grant Rule Variance of Minn. R. 7826.0500 Subpart 1.G.

Finally, this petition requests a rule variance of Minn. R. 7826.0500, subpart 1.G., which requires in relevant part the Company to provide a copy of each report the Company had previously provided to the Commission's Consumer Affairs Office for a major service interruption. Specifically, Minn. R. 7826.0700, Subpart 1 requires the Company to "promptly inform the commission's Consumer Affairs Office of any

major service interruption" providing certain information to the extent known. Under Minn. R. 7826.0200 Subpart 7 a major service interruption is "an interruption of service at the feeder level or above and affecting 500 or more customers for one or more hours." In previous Annual Reports, this information was provided to the Commission as Attachment D.

Minn. R. 7826.0700, Subpart 2 requires the Company to provide "[w]ithin 30 days . . . a written report of any major service interruption in which ten percent or more of its Minnesota customers were out of service for 24 hours or more." The Company rarely has ten percent of more of its customers out for 24 hours or more but would certainly continue to provide these reports in the context of its Annual Report.

Under Minn. R. 7829.3200, Subpart 1, the Commission

> shall grant a variance to its rules when it determines that the following requirements are met:
>
> A. Enforcement of the rule would impose an excessive burden upon the applicant or others affected by the rule;
> B. Granting the variance would not adversely affect the public interest; and
> C. Granting the variance would not conflict with standards imposed by law.

In support of its request for a rule variance, the Company addresses each of the elements of Minn. R. 7829.3200 below.

1. **Enforcement of the rule would impose an excessive burden upon the applicant or others affected by the rule.**

Last year, Attachment D was a 1,162 page attachment in which nearly ever page had the specific substation and/or feeder redacted, and some pages contained redacted information about major customers who were impacted by the outage. Preparing this attachment for filing (i.e., collecting and combining all of the e-mails into one large .pdf, performing the redactions, and then verifying the redactions) is time consuming for the Company. The Company believes this effort is an excessive burden in light of the fact it is compiling e-mails that the Commission and the Department has already received from the Company.

2. **Granting the variance would not adversely affect the public interest.**

Granting this rule variance would not adversely affect the public interest because it requires the Company to provide e-mails that were previously sent to both the Commission Consumer Affairs Office (CAO) and the Department. The Company

regularly includes with its filing a summary list showing the date and work center of all major outages, whether the Company provided notice to the CAO and Department. The Company plans to continue providing this chart so that all interested stakeholders can see the extent of the Company's compliance with Minn. R. 7826.0700, Subpart 1, the Company also addresses its compliance with this rule in narrative form in the Annual Report.

3. **Granting the variance would not conflict with standards imposed by law.**

The Company does not believe that granting this variance would conflict with any standards imposed by law.

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 safe, reliable and quality customer 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 2020 as detailed in this Petition. Finally, we request the Commission grant a variance of Minn. R. 7826.0500, Subpart 1.G.

Dated: April 1, 2020

Northern States Power Company

STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

Katie J. Sieben	Chair
Valerie Means	Commissioner
Matthew Schuerger	Commissioner
John Tuma	Commissioner

IN THE MATTER OF NORTHERN STATES POWER COMPANY'S ANNUAL REPORT ON SAFETY, RELIABILITY, AND SERVICE QUALITY FOR 2019; AND PETITION FOR APPROVAL OF ELECTRIC RELIABILITY STANDARDS FOR 2020	DOCKET NO. E002/M-20-___ **ANNUAL REPORT AND PETITION**

SUMMARY OF FILING

Please take notice that on April 1, 2020, 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 2020 as required under Minn. R. 7826.0600 and a rule variance of Minn. R. 7826.0500 Subpart 1.G.

Requirement	Item	Location
7826.0400 ANNUAL SAFETY REPORT.		
	A. summaries of all reports filed with the United States Occupational Safety and Health Administration and the Occupational Safety and Health Division of the Minnesota Department of Labor and Industry during the calendar year	Section II.A
	B. a description of all incidents during the calendar year in which an injury requiring medical attention or property damage resulting in compensation occurred as a result of downed wires or other electrical system failures and all remedial action taken as a result of any injuries or property damage described.	Section II.B and Attachment A
7826.0500 RELIABILITY REPORTING REQUIREMENTS.		
	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 normalize its reliability data to account for major storms	Section III.B.1.a
	E. an action plan for remedying any failure to comply with the reliability standards set forth in part 7826.0600 or an explanation as to why noncompliance was unavoidable under the circumstances;	Section III.B.2.a
	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;	Section III.B.3 and Attachment F
	G. a copy of each report filed under part 7826.0700;	Section III.B.4.a (Variance Requested) and Attachment G
	H. to the extent technically feasible, circuit interruption data, including identifying the worst performing circuit in each work center, stating the criteria the utility used to identify the worst performing circuit, stating the circuit's SAIDI, SAIFI, and CAIDI, explaining the reasons that the circuit's performance is in last place, and describing any operational changes the utility has made, is considering, or intends to make to improve its performance;	Section III.B.2.b and Attachment E
	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;	Section III.B.5
	J. data on staffing levels at each work center, including the number of full-time equivalent positions held by field employees responsible for responding to trouble and for the operation and maintenance of distribution lines;	Section III.B.6
	K. Any other information the utiltity considers relevant in evaluating its reliabilty performance	
7826.0600 RELIABILITY STANDARDS.		
	Subpart 1. Annually proposed individual reliability standards. On or before April 1 of each year, each utility shall file proposed reliability performance standards in the form of proposed numerical values for the SAIDI, SAIFI, and CAIDI for each of its work centers. These filings shall be treated as "miscellaneous tariff filings" under the commission's rules of practice and procedure, part 7829.0100, subpart 11.	Section V.B
7826.0700 REPORTING MAJOR SERVICE INTERRUPTIONS.		
	Subpart 1. Contemporaneous reporting. A utility shall promptly inform the commission's Consumer Affairs Office of any major service interruption. At that time, the utility shall provide the following information, to the extent known: A. the location and cause of the interruption; B. the number of customers affected; C. the expected duration of the interruption; and D. the utility's best estimate of when service will be restored, by geographical area.	Section III.B.4.a (Variance Requested)
	Subp. 2. Written report. Within 30 days, a utility shall file a written report on any major service interruption in which ten percent or more of its Minnesota customers were out of service for 24 hours or more. This report must include at least a description of: A. the steps the utility took to restore service; and B. any operational changes the utility has made, is considering, or intends to make, to prevent similar interruptions in the future or to restore service more quickly in the future.	Section III.B.4.a
7826.1200 CALL CENTER RESPONSE TIME.		

	Subpart 1. Calls to business office. On an annual basis, utilities shall answer 80 percent of calls made to the business office during regular business hours within 20 seconds. "Answer" means that an operator or representative is ready to render assistance or accept the information to handle the call. Acknowledging that the customer is waiting on the line and will be served in turn is not an answer. If the utility uses an automated call-processing system, the 20-second period begins when the customer has selected a menu option to speak to a live operator or representative. Utilities using automatic call-processing systems must provide that option, and they must not delay connecting the caller to a live operator or representative for purposes of playing promotional announcements.	Section IV.D and Attachment K
	Subp. 2. Calls regarding service interruptions. On an annual basis, utilities shall answer 80 percent of calls directed to the telephone number for reporting service interruptions within 20 seconds. "Answer" may mean connecting the caller to a recording providing, to the extent practicable, at least the following information: A. the number of customers affected by the interruption; B. the cause of the interruption; C. the location of the interruption; and D. the utility's best estimate of when service will be restored, by geographical area.	Section IV.D and Attachment K
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 for periods of longer than 12 months, and an explanation as to why they have not been read; and	Section IV.A.1 and Attachment I
	D. data on monthly meter-reading staffing levels, by work center or geographical area	Section IV.A.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 Minnesota Statutes, sections 216B.096 and 216B.097, 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; and D. the number of disconnected customers restored to service by entering into a payment plan	Section IV.B
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; and 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.	Section IV.C
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.	Section IV.D and Attachment K
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.	Section IV.E
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.	Section IV.F
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; or (4) refusing to take the action the customer requested; and E. the number of complaints forwarded to the utility by the commission's Consumer Affairs Office for further investigation and action.	Section IV.G and Attachment L
COMMISSION ORDERS		
Docket E002/M-19-261 Order Date: January 28, 2020	2. Attachment B, item 1: Non-normalized SAIDI, SAIFI and CAIDI values	Section III.B.1.b
	2. Attachment B, item 2: SAIDI, SAIFI, and CAIDI, MAIFI, CEMI, and CELI normalized values calculated using the IEEE 1366 Standard.	Section III.B.1.b
	2. Attachment B, item 3: MAIFI – normalized and non-normalized.	Section III.C.1
	2. Attachment B, item 4: CEMI – at normalized and non-normalized outage levels of 4, 5, and 6 interruptions.	Section III.C.2
	2. Attachment B, item 5: The highest number of interruptions experienced by any one customer (or feeder, if	Section III.C.2
	2. Attachment B, item 6: CELI – at normalized and non-normalized intervals of greater than 6 hours, 12 hours, and	Section III.C.3
	2. Attachment B, item 7: The longest experienced interruption by any one customer (or feeder, if customer level is	Section III.C.3
	2. Attachment B, item 8:A breakdown of field versus office staff as required Minn. Rules 7826.0500 Subp. 1, J,	Section III.B.6
	2. Attachment B, item 9: Estimated restoration time accuracy, using the following windows: a. Within -90 minutes to 0 of estimated restoration time b. Within 0 to +30 minutes of estimated restoration time	Section III.B.4.b
	2. Attachment B, item 10:IEEE benchmarking results for SAIDI, SAIFI, CAIDI, and MAIFI from the IEEE benchmarking working group	Section III.B.1.c
	2. Attachment B, item 11: Performance by customer class,If reporting by class is not yet possible, an explanation of when the utility will have this capability.	Section III.B.1.b
	2. Attachment B, item 12: Causes of sustained customer outages, by work center.	Section III.B.2.a
	3. In their 2019 Safety, Reliability, and Service Quality Reports, utilities shall discuss the feasibility of the following metric, and if the utility does not think the metric is feasible, provide an alternative: (a) Provide a comparison of the reliability (SAIDI, SAIFI, CAIDI, MAIFI, normalized/non-normalized) of feeders with grid modernization investments, such as Advanced Metering Infrastructure (AMI) or Fault Location, Isolation, and Service Restoration (FLISR), to the historic 5-year average reliability for the same feeders before grid modernization investments.	Section III.B.1.d
	4. In their 2019 Safety, Reliability, and Service Quality Reports, utilities shall discuss transitioning from a five year rolling average method of proposing SAIDI, SAIFI, and CAIDI standards, to standards that are similar to the second quartile rank of similarly sized investor-owned utilities under either the IEEE benchmarking study or using United States Energy Information Administration (EIA) reliability data, and may propose and discuss other	Section V.A
	5. Within 30 days, the utilities shall make a compliance filing with additional data as follows: ** (d) For Xcel Energy, an explanation for the decline in staffing at its Southeast work center and a report on: (i) steps taken to increase FTEs at the Southeast work center in 2020, (ii) the number of contractors versus employees at the Southeast work center, and (iii) steps taken to improve reliability standards that are lagging at the Southeast work center.	See Sections III.A, B.2 and Attachment C; the Southeast Work Center Report was originally submitted on Feb 27, 2020 in Docket No. E002/M-19-261

	12. Utilities shall consult with Commission staff to draft a brief summary of their annual service-quality and reliability metrics that is digestible and useable for general audiences and file it as an attachment to their next annual report due April 1, 2020.	Section III.A and Attachment B
Docket E002/M-18-239 Order Date: May 14, 2019	2. Utilities shall consult with Commission Staff to draft a brief summary of their annual service-quality and reliability metrics that is digestible and useable for general audiences.	Section III.A and Attachment B
	3. Utilities shall examine the definition of "customer complaint" and provide a short summary of their observations and conclusions in their electric service-quality reports due April 1, 2020.	Section IV.G
	4. Utilities shall further break down and explain the percentage of complaints they received that were not within the utilities' control (i.e., those related to energy-efficiency providers, solar installers, or other vendors/matters) and include a short summary in their electric service quality reports due April 1, 2020.	Section IV.G
	5. Utilities shall engage in a dialogue with Commission Staff and stakeholders on emergency-medical-account-status protection as outlined in Minn. Stat. § 216B.098, subd. 5, and reported under Minn. R. 7826.1800.	Section IV.E
	6. Xcel shall provide refreshed information responsive to the Commission's February 9, 2018 order in Docket Nos. E-002/M-16-281 and E-002/M-17-249 in future annual service-quality reports.	Various
Docket E002/M-18-239 March 19, 2019	3. In future annual reports, Xcel must file the following: (a) Non-normalized SAIDI, SAIFI, and CAIDI values. (b) SAIDI, SAIFI, and CAIDI values calculated using the IEEE 2.5 beta method.	Section IIII.B.1.b
	(c) CEMI – at normalized and non-normalized outage levels of 4, 5, and 6.	Section III.C.2
	(d) CELI – at intervals of greater than 6 hours, 12 hours, and 24 hours. (e) CELI.	Section III.C.3
	(f) Estimated restoration times.	Section III.B.4.b
	(g) IEEE benchmarking.	Section III.B.1.c
	(h) Performance by customer class.	Section III.B.1.d
	(i) More discussion of leading causes of outages and mitigation strategies.	Section III.A
Docket No. 17-553 November 2, 2017	The Commission approved "the Company's requested change to the call center non-emergency hours and the associated customer bill form and tariff changes, and required the Company to submit two years annual compliance review in its annual service quality reports for 2018 and 2019."	Section IV.D; per the compliance obligation, this is the last year the Company will include this info in our Annul Report
Dockets E002/M-17-249 and E002/M-16-281 February 9, 2018	3. (a) The Company's data on benchmarking with national IEEE Reliability Standards;	Section III.B.1.c
	3. (b) A qualitative discussion of ways the Commission looks at increased granularity;	Section III.B.1.a
	3. (c) An assessment of MAIFI data;	Section III.C.1
	3. (d) A summary of the Company's estimated response time to customers and steps the Company is taking to measure and communicate more accurately the Company's estimated response time to customers;	Section III.B.4.b
	3. (e) The Company's internal customer satisfaction goals and a comparison of the Company's actual performance to those goals, as well as an explanation of the basis for those customer satisfaction goals;	Section IV.I
	3 (f) With respect to the distribution feeder table identification provided in the report, Xcel shall include the appropriate locational labels, applicable substation name, and region to which the information relates;	Attachment E
	3. (h) Data on the number of applicants and participants in the Company's emergency medical accounts.	Section IV.E
Docket E002/M-14-131 December 12, 2014	3. Required Xcel to augment its next filing to include a description of the policies, procedures and actions that it has implemented, and plans to implement, to assure reliability, including information on how it is demonstrating pro-active management of the system as a whole, increased reliability, and active contingency planning. 4. Required Xcel to incorporate into its next filing a summary table that allows the reader to more easily assess the overall reliability of the system and identify the main factors that affect reliability. 5. Required Xcel to report on the major causes of outages for major event days. 6. Required Xcel to consider other factors, in addition to historical data, on which to base its reliability indices for 2014 in an effort to demonstrate its commitment toward improving reliability performance. 7. Required Xcel to continue reporting major service interruptions to the Commission's Consumer Affairs Office.	Section III.A and Attachment D Section III.B.1.b

Docket E002/M-13-255 **January 13, 2014**	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.	Section III.A and Attachment D Section III.B.1.b
Docket E002/GR-12-961 **November 19, 2013**	In Schedule 11 of its Compliance Filing, the Company provided its proposal for additional reporting of MAIFI data. Xcel provided an example of the following five additional MAIFI reports that will be filed in the April 1, 2014 service quality report: 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.	Section III.C.1 and Attachment H
Docket E002/M-12-313 **December 20, 2012**	3. The Company shall include the following in its next annual safety, reliability, and service quality reports: (a) a description of the policies, procedures, and actions that it has implemented, and plans to implement, to assure reliability, including information demonstrating proactive management of the system as a whole, increased reliability, and active contingency planning. (b) a summary table (or summary information in some other format) that allows the reader to more easily assess the overall reliability of the system and identify the main factors that affect reliability. (c) a report on the major causes of outages for major event days.	Section III.A and Attachment D Section III.B.1.b
Docket E002/M-11-293 **January 12, 2012**	3. Xcel shall include in its next filing a description of the policies, procedures, and actions that it has implemented and plans to implement to ensure reliability, including information demonstrating proactive management of the system as a whole, increased reliability, and active contingency planning.. Xcel shall include in its next filing a summary table that allows the reader to more easily assess the overall reliability of the system and identify the main factors that affect reliability. 5. Xcel shall continue to report on the major causes of outages for major event days.	Section III.A and Attachment D Section III.B.1.b
Docket G002/CI-08-871 **Docket E,G002/M-09-224** **November 30, 2010**	Direct Xcel to file the following information with its annual electric service quality reports filed pursuant to Minn. Rules, Part 7826.0500 and its annual gas service quality reports established in Docket No. G-999/CI-09-409 starting in 2013: • 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;	Section IV.A.2 and Attachment J
Docket E002/M-08-393 **October 24, 2008**	4. Regarding additional issues for reports due April 1, 2009, Xcel shall: (a) augment its next filing to include a description of the policies, procedures and actions that it has implemented, and plans to implement, to assure reliability. Xcel shall include information on how it is demonstrating pro-active management of the system as a whole, increased reliability and active contingency planning, including a specific discussion of the status and actions of its strategic initiatives presented to the Commission at its April 9, 2008, planning meeting; (b) incorporate into its next filing a summary table (or summary information in some other format) that allows the reader to more easily assess the overall reliability of the system and identify the main factors that affect reliability;	Section III.A and Attachment D Section III.B.1.b
Docket E002/M-07-422 **December 26, 2007**	10. Regarding additional issues for Reports due April 1, 2008, Xcel shall (a) augment its next filing to include a description of the policies, procedures and actions that it has implemented, and plans to implement, to assure reliability and include information on how it is demonstrating proactive management of the system as a whole, increased reliability and active contingency planning; (b) incorporate into its next filing a summary table (or summary information in some other format) that allows the reader to more easily assess the overall reliability of the system and identify the main factors that affect reliability;	Section III.A and Attachment D Section III.B.1.b

Docket E002/M-05-551 April 7,2006	3. In its annual safety, reliability, and service quality report due on or before April 1, 2007, Xcel Energy shall report on the 25 worst performing circuits in each of its four work centers.	Section III.B.2.b and Attachment E
Docket E002/M-04-511 November 3, 2004	5. Xcel shall file, on a going forward basis, a copy of every notification of an outage event sent to the Consumer Affairs Office which meets the standards set forth in Minn Rules part 7826 0700, subp 1, i e affecting 500 or more customers for one or more hours	Section III.B.4.a (Variance Requested)
	6. Xcel shall include, on a going forward basis, data regarding credit calls but not calls from C&I customers in its calculation of call center response times	Section IV.D

Xcel Energy's
Service Quality Annual Report

Safety, Reliability Standards, and Service Quality for 2019
and
Request for Approval of Electric Reliability Standards for 2020

April 1, 2020
Docket No. E-002/M-20-____

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LIST OF TABLES AND GRAPHS

I. FILING REQUIREMENT

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 2019.

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. We submit this report pursuant to Minn. R. 7826.0400, 7826.0500, and 7826.1300. This Annual Report also contains additional items Ordered by the Commission and stemming from previous Annual Service Quality Report dockets. For ease of use, we provide a compliance matrix starting on page 5 detailing the various rule requirements and Order Points, along with page references to this report.

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

II. ANNUAL SAFETY REPORT FOR 2019

Minn. R. 7826.0400 requires the Company to provide an Annual Safety Report on or before April 1 of each year on its safety performance during the last calendar year. The Annual Safety Report has two elements required by Minnesota Rules.

A. Reports OSHA and the Minnesota Department of Labor & Industry

- **Pursuant to Minn. R. 7826.0400, subpart A, the Company must provide "summaries of all reports filed with the United States Occupational Safety and Health Administration and the Occupational Safety and Health Division of the Minnesota Department of Labor and Industry during the calendar year."**

During 2019, 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. Table 1 below provides a summary of the data requested by the U.S. Department of Labor for 2019. This table includes the required information from the U.S. Occupational Safety and Health Administration Form 300.

TABLE 1: SAFETY

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
Centre Pointe	141	256,646	0	0	0	0	0	0	0	0	0	0	0	0
Chestnut Garage	13	23,221	0	0	0	0	0	0	0	0	0	0	0	0
401 Nicollet Mall	610	1,093,442	0	0	0	1	0	0	1	0	0	0	0	0
Newport	85	170,990	0	1	0	1	35	12	2	0	0	0	0	0
Prairie Island	598	1,173,535	0	0	0	1	0	0	1	0	0	0	0	0
Rice Street	364	723,467	0	4	1	4	77	50	9	0	0	0	0	0
Sherco	307	645,676	0	1	1	2	139	61	4	0	0	0	0	0
Summary	2,118	4,086,977	0	6	2	9	251	123	17	0	0	0	0	0

We did not file any reports with the Occupational Safety and Health Division of the Minnesota Department of Labor and Industry.

B. Incidents Resulting in Compensation because of Downed Wires or Other Electrical System Failures

- **Pursuant to Minn. R. 7826.0400, subpart B, the Company must provide "[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 A to this Annual Report includes the required information regarding claims paid in 2019 related to property damage resulting from downed wires, other electrical system failures or claim types that have been historically reported to the Commission. The rule requires a description of incidents that occurred during the calendar year (i.e., 2019), but this summary also reflects payments made in 2019 for any qualifying events that happened in a prior year. 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.

This submission also contains information about claims against the company where the Company and the settling plaintiff agreed the settlement amount would be maintained as confidential. 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 report.

III. RELIABILITY PERFORMANCE REPORT FOR 2019

Minn. R. 7826.0500 requires the Company to provide an Annual Reliability Performance Report on or before April 1 of each year on its reliability performance during the last calendar year. The Annual Reliability Performance Report has eleven elements required by Minnesota Rules; and over time, the Commission has required the Company to report additional elements related the Company's reliability performance.

A. Overview of 2019 Reliability Performance

- **Order Point 2 in the Commission's May 14, 2019 Order in Docket No. E002/M-18-239 and Order Point 12 in the January 28, 2020 Order in Docket No. E002/M-19-261 requires the Company to provide an infographic summarizing key customer-service quality and reliability metrics in a format for general audiences and consult with Commission staff on its development.**

As can be seen in the Infographic provided as **Attachment B**, Xcel Energy serves approximately 1.3 million electric customers in 370 cities and towns across the State of Minnesota. Excluding major event days (MEDs) our Minnesota customers had power 99.985 percent of time. Excluding MEDs, our Minnesota customers were without power for an average of 81 minutes; an average customer experienced less than one outage in 2019, while approximately two percent of our Minnesota customers experienced more than three power outages; and approximately three percent experienced an outage lasting longer than six hours in 2019.

We know the Commission looks closely at the performance by work center as well. By looking at the performance data for 2019, we know that not all customers in all parts of our service territory experienced the above level of service. In 2019, the Company met the Commission set standards in five of the twelve metrics. As described in more detail below, the Company met all its standards for the Metro West work center; met two of the three for the Metro East; and missed all the standards for its Northwest and Southeast work centers (though the Company was much closer to achieving the standards for Northwest than Southeast). We understand the Commission's concerns with our continuing lagging performance in the Southeast work center and share that concern. On February 27, 2020, we filed a report on the Southeast work center and have attached it here as **Attachment C**. In the Southeast Work Center Report, the Company committed to continue to investigate the causes of lagging reliability performance in the Southeast work center and report quarterly on its progress. The Company will file those quarterly reports in this docket, and in last year's Annual Service Quality filing docket.

In addition to the SAIDI, SAIFI and CAIDI reliability metrics, this section also provides information about other reliability metrics the Commission has asked us to report on: MAIFI, CEMI, and CELI.

- **Order Point 3 in the Commission's December 12, 2014 Order in Docket No. E-002/M-14-131 required the Company "to augment its next filing to include a description of the policies, procedures and actions that it has implemented, and plans to implement, to assure reliability, including information on how it is demonstrating pro-active management of the system as a whole, increased reliability, and active contingency planning.**

- **Order Point 3.I in the Commission's March 19, 2019 Order in Docket No. E002/M-18-239 required the Company to include more discussion of leading causes of outages and mitigation strategies.**

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 based on some of the leading causes of outages and, in an effort to assure reliability, enable proactive management of the system as a whole, and effectively respond when outages occur. The information requested by Order Point 3 in the Commission's December 12, 2014 Order can be found in **Attachment D.**

B. Reliability Metrics Contemplated by the Commission's Rules

1. SAIDI, SAIFI and CAIDI Metrics

a. Overview of Company's SAIDI, SAIFI and CAIDI Performance

- **Pursuant to Minn. R 7826.0500, Subpart 1.A-D, each utility's reliability report should include:**
  - **The utility's SAIDI for the calendar year, by work center and for its assigned service area as a whole.**
  - **The utility's SAIFI for the calendar year, by work center and for its assigned service area as a whole.**

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

On April 1, 2019, as required by Minn. R. 7826.0600, we proposed reliability standards for 2019 for each of our four Minnesota work centers.[1] Table 2 below presents our 2019 reliability performance results compared to the standards approved by the Commission.

TABLE 2
2019 RELIABILITY PERFORMANCE RESULTS

		2019 Performance Results	2019 Standards
Minnesota	SAIDI	81.02	NA
	SAIFI	0.75	NA
	CAIDI	108.29	NA
Metro East	SAIDI	80.56	89.78
	SAIFI	0.75	0.86
	CAIDI	**107.36**	103.94
Metro West	SAIDI	69.50	82.08
	SAIFI	0.70	0.82
	CAIDI	99.15	100.37
Northwest	SAIDI	**89.07**	85.86
	SAIFI	**0.78**	0.76
	CAIDI	**113.48**	113.01
Southeast	SAIDI	**129.10**	94.82
	SAIFI	**0.93**	0.76
	CAIDI	**138.99**	122.04

As shown above, in 2019 we met five of twelve standards, bolding those standards we did not meet.[2] We provide in Section B below a summary as to why we did not meet the established standards in these areas.

[1] The four Minnesota work centers include Metro East, Metro West, Northwest, and Southeast.
[2] We note that Xcel Energy operates under two sets of reliability standards – those approved by the Commission under Minn. R. 7826.0600, and those included in the Company's service quality tariff. The Commission approved the reliability measures in our service quality tariff in its Order dated August 12, 2013 in Docket No. E,G002/M-12-383. We will file an annual report in that docket on or by May 1, 2020.

- **Order Point 3.B in the Commission's February 9, 2018 Order in Docket No E002/M-17-249, the Commission required the Company to provide a discussion of the ways the Commission looks at increased granularity.**

An additional level of granularity is feeder reliability plotted on a map. The maps on the next two pages, Maps 1 and 2, provide a view of our feeder SAIDI performance, which we have differentiated by color – indicating different ranges of reliability, as follows:

Color	SAIDI Range
Green	=< 100 minutes
Blue	100 to 149 minutes
Pink	150 to 199 minutes
Red	= >200 minutes

We note that the reliability statistics above are calculated using the recently ordered normalization method of IEEE 1366 Regional Major Event Days (MED).

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 normalized data

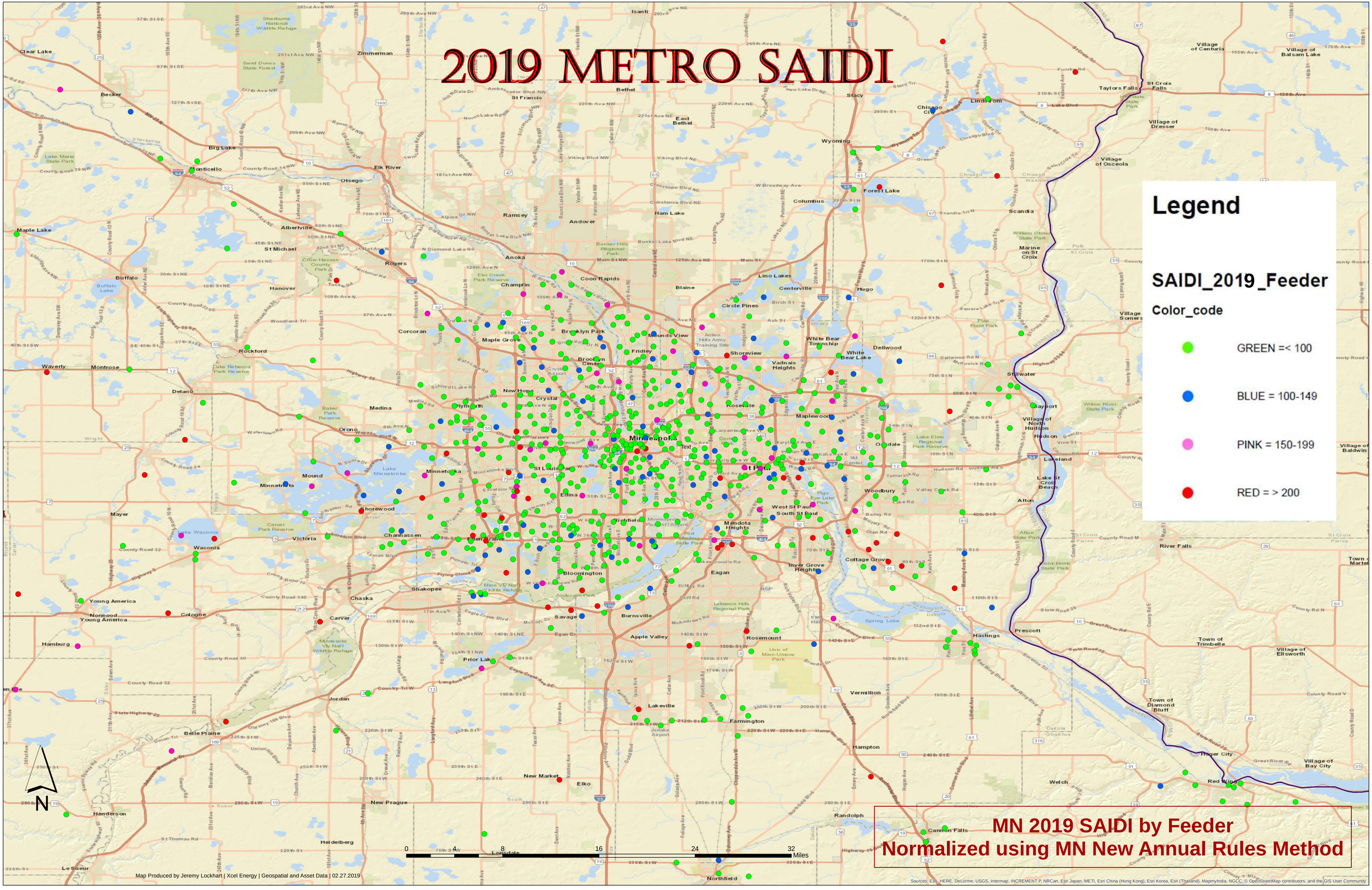
We determine regional major event day thresholds based on using the IEEE 1366 method. Any day that meets or exceeds the daily SAIDI MED threshold is considered a MED for the qualifying region. This means that all outages that start on a MED (which lasts from midnight to midnight) for a particular work center are excluded from the calculation of the various reliability indices for that work center.

We used the IEEE MED threshold calculation procedure as explained below:

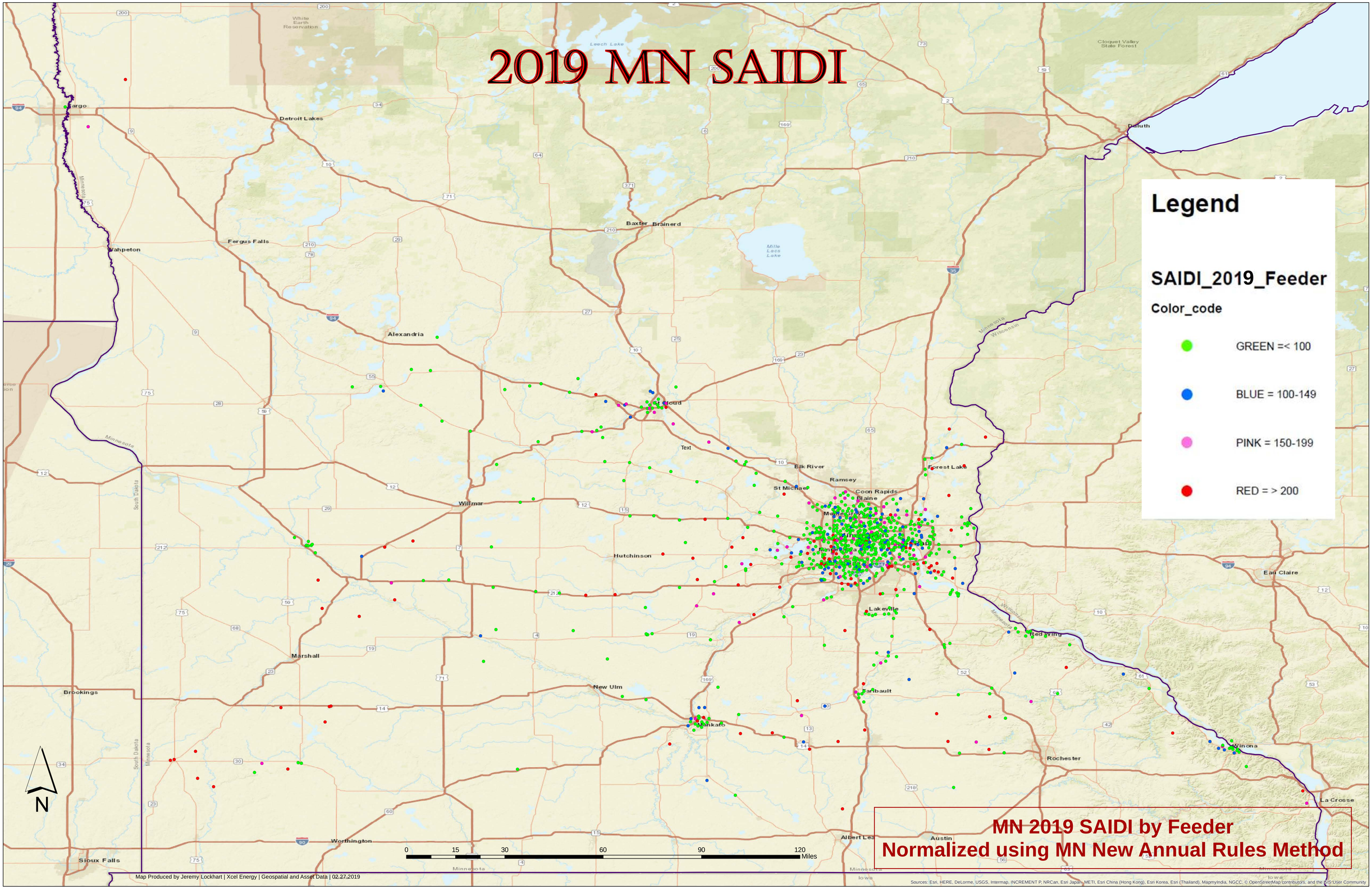
- Use the previous five years of outage history for each region,
  - Calculate the daily SAIDI;
  - Calculate the Natural Log of each daily SAIDI; and
  - Calculate the Average and Standard Deviation of the Natural Logs.

- Based on the above methodology, a unique MED threshold for each region is set. A MED is defined as any day meeting or exceeding the MED SAIDI threshold, which is set at the Exponent of the average plus 2.5 standard deviations of the Natural Logs.

2019 METRO SAIDI



2019 MN SAIDI



b. More Detailed Looks at the Company's SAIDI, SAIFI and CAIDI Performance

- **Order Point 4 in the Commission's December 12, 2014 Order in Docket No. E-002/M-14-131 required the Company to "incorporate into its next filing a summary table that allows the reader to more easily assess the overall reliability of the system and identify the main factors that affect reliability."**

- **Order Points 1 and 2 from Attachment B of the Commission's January 28, 2020 Order required the Company to provide non-normalized and normalized valued for reliability metrics calculated using the IEEE 1366 method.**

To comply with this Order Point 4, we have customarily provided a chart of our reliability performance with and without storm normalization, under both the methodology the Commission uses in this docket and the methodology the Company uses in the Company's Annual Service Quality Tariff Filing, as compared to the past several years so that interested reviewers can see the trends the Company has experienced over time. This chart also complies with the obligations of Order Points 1 and 2 from Attachment B.

Table 3

Historical Reliability Indices & Storm Day Exclusions

All Days[1]		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Minnesota	SAIDI	274.42	207.77	149.15	562.11	116.43	184.50	214.39	141.70	125.00	124.50
	SAIFI	1.50	1.11	1.07	1.39	0.92	0.96	1.05	0.90	0.95	0.86
	CAIDI	183.43	187.11	139.51	404.36	126.00	192.32	204.84	158.10	131.22	145.30
Metro East	SAIDI	270.43	113.90	190.95	352.30	123.54	177.19	223.67	136.51	112.11	104.57
	SAIFI	1.59	0.96	1.20	1.27	0.98	1.04	1.08	0.95	0.96	0.85
	CAIDI	170.23	118.95	159.23	278.46	125.93	169.86	206.85	144.37	116.71	122.52
Metro West	SAIDI	301.09	238.03	139.19	810.01	105.98	229.78	198.25	148.58	88.23	79.92
	SAIFI	1.54	1.19	1.10	1.55	0.89	1.00	1.00	0.86	0.92	0.74
	CAIDI	196.10	199.66	126.85	523.66	118.70	229.92	198.86	173.27	95.70	107.38
Northwest[4]	SAIDI	181.38	470.05	109.75	468.22	82.82	75.61	225.74	173.71	109.50	150.82
	SAIFI	1.26	1.40	0.87	1.40	0.82	0.66	1.07	0.98	0.87	0.94
	CAIDI	143.66	334.78	126.17	335.53	101.00	115.40	211.50	177.46	126.02	160.71
Southeast[5]	SAIDI	251.24	125.28	97.25	179.29	173.45	98.23	249.05	96.37	353.32	374.19
	SAIFI	1.24	0.95	0.71	1.06	0.98	0.79	1.15	0.84	1.15	1.32
	CAIDI	203.04	131.69	137.84	168.93	176.51	125.07	217.15	114.75	307.95	283.40

MN Tariff[2]		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	'19 Target
Minnesota	SAIDI	110.83	83.87	96.20	91.12	79.85	86.83	89.49	73.80	93.26	76.66	133.23
	SAIFI	1.12	0.82	0.88	0.86	0.78	0.79	0.81	0.72	0.85	0.70	1.21
	CAIDI	99.24	102.08	109.60	106.51	102.07	109.90	110.54	102.10	109.90	109.74	NA
Metro East	SAIDI	102.03	79.34	90.70	83.56	77.58	93.71	95.49	75.70	103.28	79.26	
	SAIFI	1.20	0.83	0.88	0.83	0.82	0.90	0.87	0.75	0.92	0.72	
	CAIDI	85.09	96.00	103.35	100.72	94.81	104.58	110.07	100.79	112.40	110.29	
	MED's	4 6/25, 7/17, 10/26, 11/13	2 7/1, 7/10	5 6/10,6/19,7/3, 8/3,11/10	3 6/21, 6/22, 6/23	3 2/20, 6/14, 6/16	2 7/12, 7/18	3 7/5, 7/6, 7/21	3 6/11, 6/14, 7/12	1 5/24	2 7/15, 9/2	
Metro West	SAIDI	123.25	88.20	103.42	101.24	81.85	88.98	82.90	69.28	81.25	68.25	
	SAIFI	1.22	0.87	0.97	0.96	0.82	0.82	0.82	0.70	0.84	0.69	
	CAIDI	101.10	101.09	106.83	105.85	100.15	108.90	101.51	98.40	96.63	99.17	
	MED's	4 6/25, 7/17, 10/26, 11/13	5 5/22, 7/1, 7/10, 7/18,8/1	3 2/29, 6/19, 8/3	5 6/21,6/22, 6/23,6/24,8/	1 6/14	1 7/18	3 7/5, 7/6, 7/21	2 6/11, 6/14	1 7/1	2 7/14, 7/15	
Northwest[4]	SAIDI	102.79	79.42	94.20	85.78	62.16	69.39	80.19	69.41	99.87	61.17	
	SAIFI	0.80	0.69	0.73	0.75	0.61	0.57	0.56	0.64	0.73	0.53	
	CAIDI	129.28	115.38	128.31	113.87	102.05	121.05	143.58	107.70	137.06	115.94	
	MED's	2 8/13, 10/26	6 2/20,5/30,7/1, 7/10,8/1,8/2	0 None	2 6/21, 6/22	0 None	0 None	4 5/19, 6/19, 7/5, 11/18	1 6/11	0 None	5 4/7, 4/11, 9/2, 9/17, 12/7	
Southeast[5]	SAIDI	89.58	82.70	82.40	73.58	94.45	70.78	109.59	92.84	110.67	122.21	
	SAIFI	0.69	0.70	0.59	0.57	0.67	0.52	0.82	0.79	0.77	0.84	
	CAIDI	130.66	118.72	138.48	129.93	141.93	135.23	133.06	117.19	144.04	145.17	
	MED's	5 6/25,6/26, 7/24,8/13,11/13	2 7/1, 7/23	1 8/4	4 4/9, 5/2, 5/26, 6/21	4 2/20, 6/16, 8/4, 12/15	1 7/18	3 6/10, 7/5, 7/6	0 None	2 4/14, 9/20	4 4/10, 4/11, 7/20, 9/24	

Annual Rules[3]		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	'19 Target
Minnesota	SAIDI	113.86	88.17	101.86	94.27	84.00	89.95	90.45	75.04	96.07	81.02	NA
	SAIFI	1.17	0.88	0.93	0.90	0.84	0.83	0.83	0.74	0.89	0.75	NA
	CAIDI	97.31	100.53	109.78	104.60	99.67	108.09	108.93	100.90	107.39	108.29	NA
Metro East	SAIDI	102.32	79.89	105.74	85.05	79.73	93.73	95.52	76.22	103.69	80.56	89.78
	SAIFI	1.22	0.85	0.96	0.86	0.86	0.90	0.87	0.76	0.93	0.75	0.86
	CAIDI	83.90	93.83	110.03	99.33	92.46	104.25	109.70	100.48	111.74	107.36	103.94
	MED's	4 6/25, 7/17, 10/26, 11/13	2 7/1, 7/10	3 6/10, 6/19, 11/10	3 6/21, 6/22, 6/23	3 2/20, 6/14, 6/16	2 7/12, 7/18	3 7/5, 7/6, 7/21	3 6/11, 6/14, 7/12	1 5/24	2 7/15, 9/2	
Metro West	SAIDI	123.21	89.74	103.98	101.41	83.02	90.95	83.64	69.51	83.26	69.50	82.08
	SAIFI	1.22	0.90	0.98	0.96	0.84	0.84	0.82	0.71	0.87	0.70	0.82
	CAIDI	101.09	99.56	105.93	105.45	98.50	108.44	101.43	97.84	95.47	99.15	100.37
	MED's	4 6/25, 7/17, 10/26, 11/13	5 5/22, 7/1, 7/10, 7/18, 8/1	3 2/29, 6/19, 8/3	5 6/21, 6/22, 6/23, 6/24, 8/6	1 6/14	1 7/18	3 7/5, 7/6, 7/21	2 6/11, 6/14	1 7/1	2 7/14, 7/15	
Northwest[4]	SAIDI	110.59	94.29	95.05	97.43	82.80	75.58	85.81	75.77	109.34	89.07	85.86
	SAIFI	0.96	0.82	0.83	0.94	0.82	0.66	0.70	0.76	0.87	0.78	0.76
	CAIDI	114.86	115.31	115.16	103.70	101.02	115.39	122.38	100.28	126.05	113.48	113.01
	MED's	2 8/13, 10/26	6 2/20,5/30,7/1, 7/10,8/1,8/2	1 6/17	2 6/21, 6/22	0 None	0 None	5 5/19,6/19,7/ 5,7/16,	1 6/11	0 None	3 1/26, 4/11, 9/2	
Southeast[5]	SAIDI	111.00	101.86	85.95	87.98	103.45	86.51	110.23	96.33	118.80	129.10	94.82
	SAIFI	0.98	0.90	0.67	0.73	0.80	0.75	0.85	0.84	0.92	0.93	0.76
	CAIDI	112.90	112.82	128.50	120.39	129.20	115.16	130.02	114.73	129.64	138.99	122.04
	MED's	5 5/11,6/25,6/26, 7/24,11/13	1 7/1	1 8/4	4 4/9, 5/2, 5/26, 6/21	4 2/20, 6/16, 8/4, 12/15	1 7/18	3 6/10, 7/5, 7/6	0 None	2 4/14, 9/20	4 4/10, 4/11, 7/20, 9/24	

Footnotes for Table 3:

1) All Days – Includes All Days, Levels and Causes, Meter-based customer counts

2) MN Tariff – Normalized using IEEE 1366 at the Regional level after removing Transmission Line level. All Causes, Meter-based customer counts

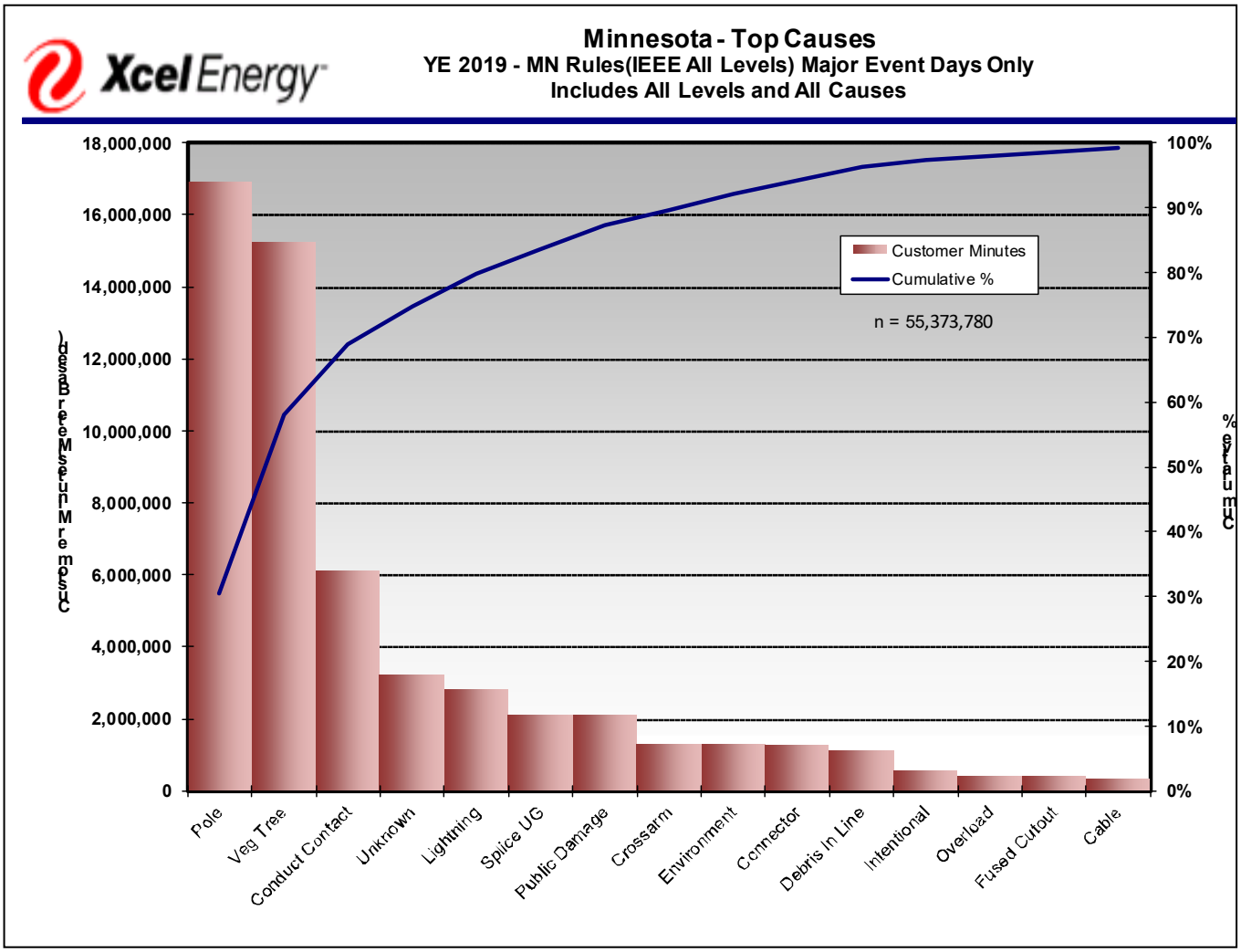
3) Annual Rules – Normalized using IEEE 1366 at the Regional level, All Causes, Meter-based customer counts

4) Northwest – Includes customers counts and interruptions in the North Dakota work region that impact Minnesota customers

5) Southeast – Includes customers counts and interruptions in the South Dakota work region that impact Minnesota customers

Graph 1 below shows the major causes of outages for storm days using our Annual Rules storm normalization methodology. These types of outages are the main factors that affect reliability.

GRAPH 1 – MAJOR CAUSES OF OUTAGES



- **Order Point 11 on Attachment B of the Commission's January 28, 2020 Order in Docket No. E-002/M-19-261 requires the Company to provide reliability metrics by customer class or if that information is not available, a timeline by which the Company will be able to provide such data.**

Presently, we do not track customer class data by feeder. We did attempt to segregate feeders that were predominately residential compared to feeders that were predominately commercial. In 2017, we found that feeders primarily serving commercial customers in general had a SAIDI value that was significantly better than the feeders serving primarily residential customers. The 2018 data showed a similar result. Although not studied, this is likely due to several items including: less vegetation in industrial and commercial areas, shorter feeders due to higher load density resulting in less exposure to the environment, and higher percentage of customers with underground service. We do not expect this general performance to vary much from year to year.

Because the Company cannot provide the data specifically requested by the Commission, it is working to develop a way to provide meaningful data responsive to the Commission's requirement more readily. The Company will be assessing the scope and cost of this requirement and will have more details in our next Annual Report.

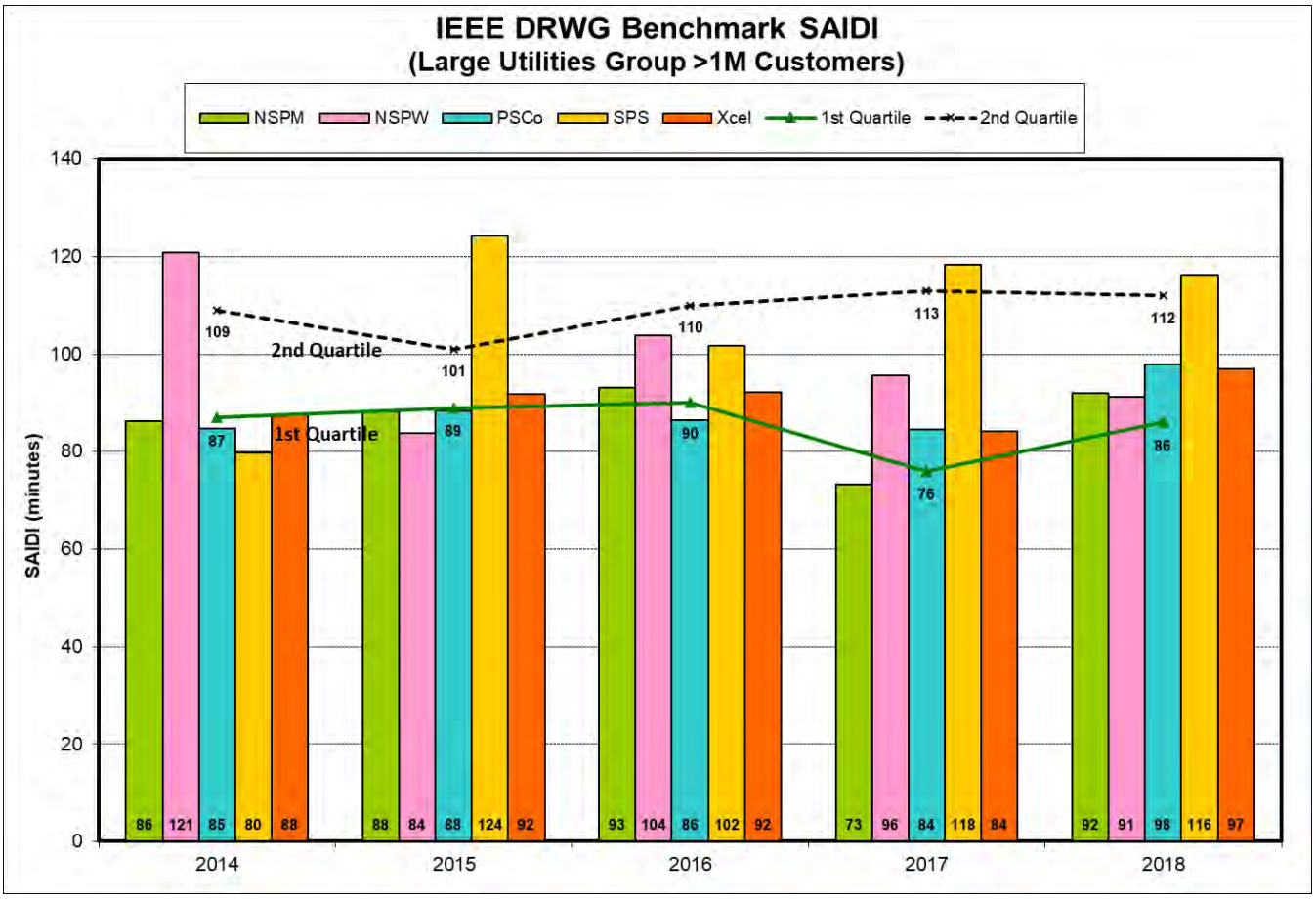
c. Benchmarking the Company's SAIDI, SAIFI, and CAIDI Performance with IEEE

- **Order Point 10 in Attachment B in the Commission's January 28, 2020 Order in Docket No. E-002/M-19-261 requires the Company to provide "IEEE Benchmarking results for SAIDI, SAIFI, CAIDI, and MAIFI from the IEEE benchmarking working group."**

We participate in the reliability benchmarking survey sponsored by the IEEE Distribution Reliability Working Group. In Graphs 2-4 below, we provide the 2018 benchmarking info for SAIDI, SAIFI, and CAIDI, which is the most current and available benchmarking year, for each of Xcel Energy's operating companies. We submit performance results to the survey at the operating company level. We additionally provide Xcel Energy rollup values for convenience of comparison. Currently, benchmarking for MAIFI is not available and is not benchmarked by the IEEE industry.

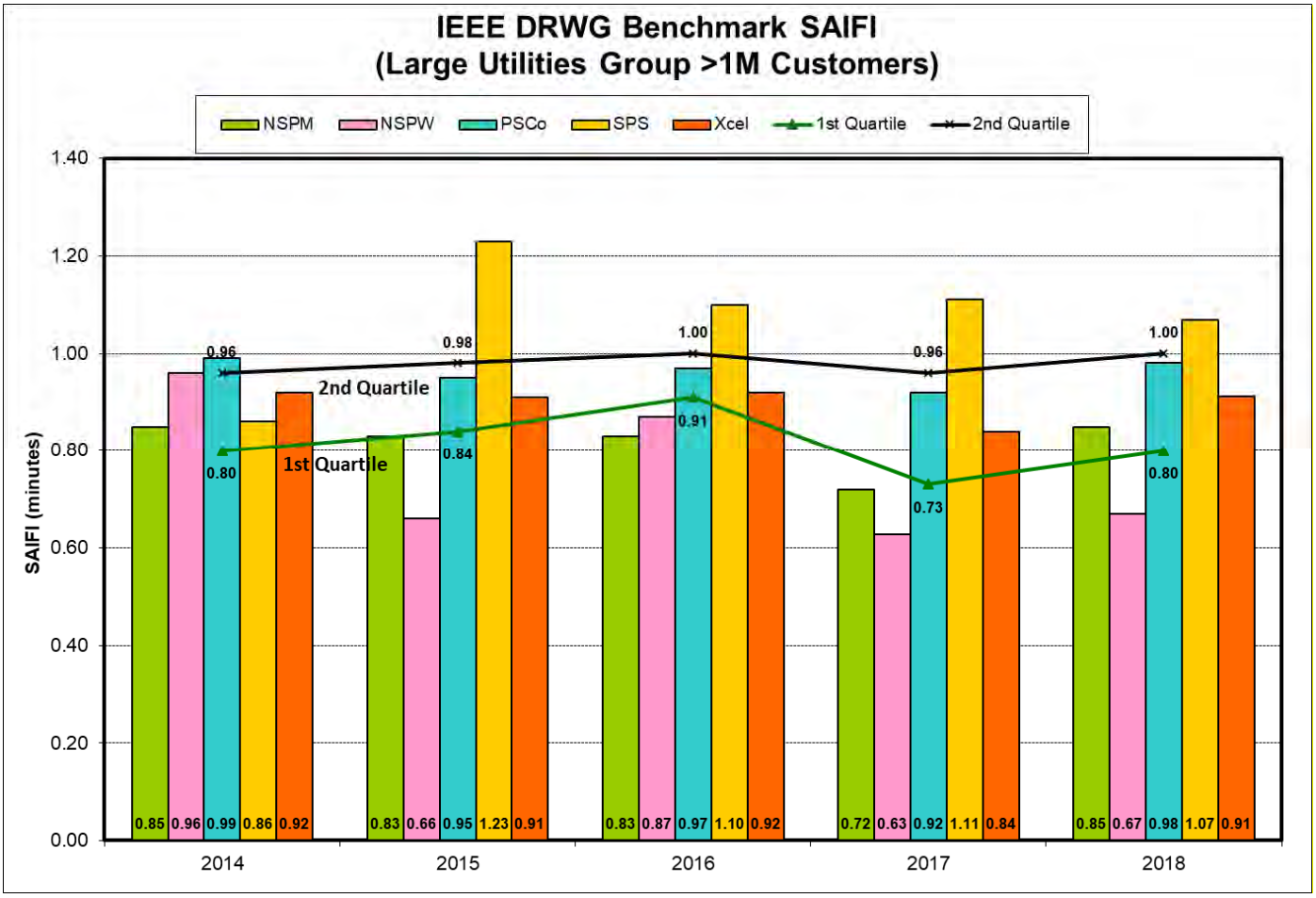
During 2018, NSPM's SAIDI performance was at the 2nd quartile performance level.

GRAPH 2 – NSPM SAIDI



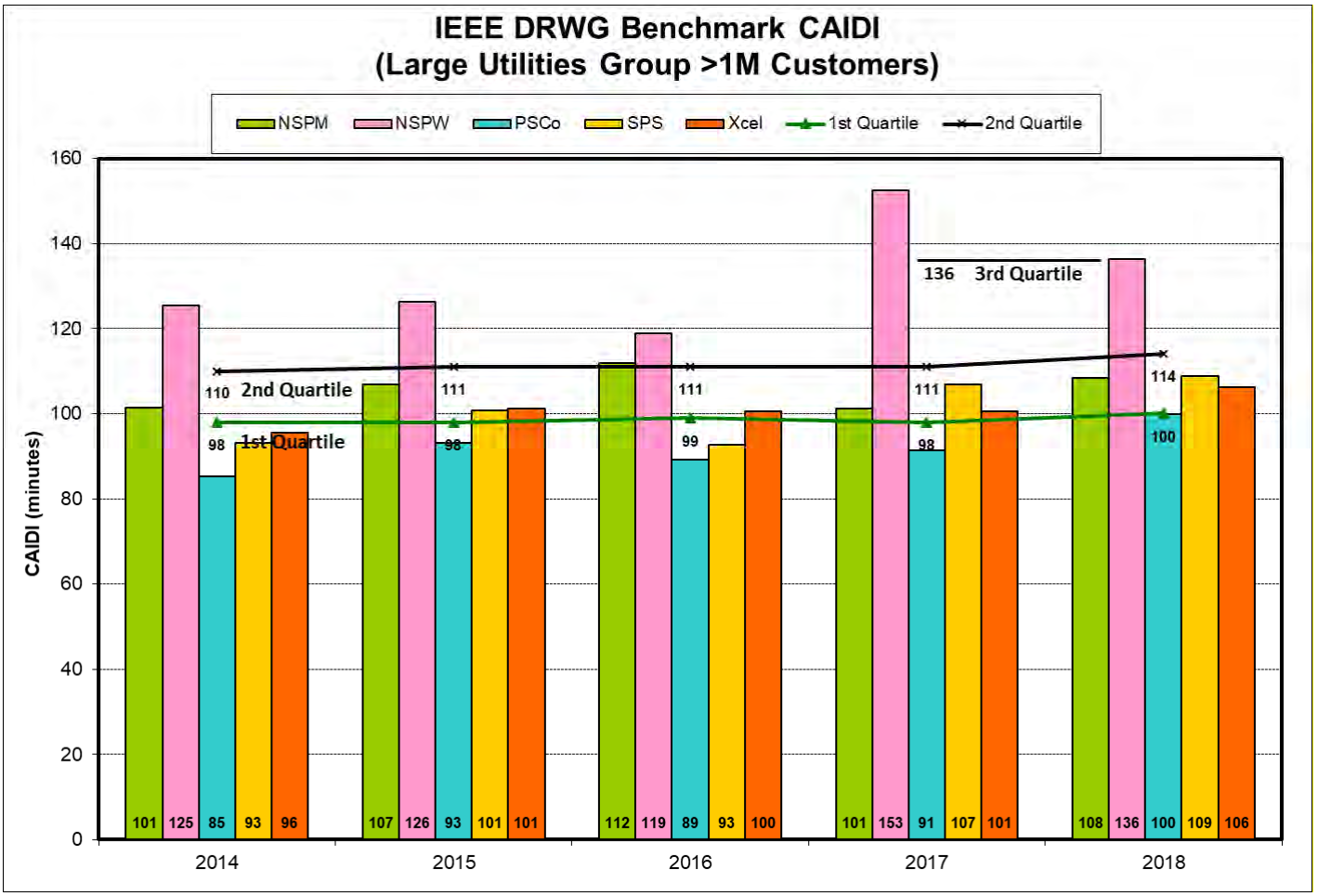
During the 2018, NSPM's SAIFI performance was at the 2nd quartile performance level.

GRAPH 3 – NSPM SAIFI



During the 2018, NSPM's CAIDI performance was at the 2nd quartile performance level.

GRAPH 4 – NSPM CAIDI



d. Additional Contemplated SAIDI, SAIFI, and CAIDI Metrics based on Grid Modernization Investments

- **Order Point 3 of the Commission's January 28, 2019 Order in Docket No. E-002/M-19-261 required the Company to [D]iscuss the feasibility of the following metric, and if the utility does not think the metric is feasible, provide an alternative:**

  "Provide a comparison of the reliability (SAIDI, SAIFI, CAIDI, MAIFI, normalized/non-normalized) of feeders with grid modernization investments, such as Advanced Metering Infrastructure (AMI) or Fault Location, Isolation, and Service Restoration (FLISR), to the historic 5-year

average reliability for the same feeders before grid modernization investments."

Like the Commission, the Company is interested in learning about the reliability improvements gained through their grid modernization efforts and will be working to track the improvements to the extent possible. We believe the metric proposed by the Commission may be feasible, but because of the variability in weather year over year it will take time to provide meaningful data. Said another way, if grid modernization investments are implemented in an extreme weather year, the historic five-year average reliability for the same feeders before grid modernization investments might not provide a completely accurate picture of the impact of the grid modernization investments.

In considering any metric that measures the impact of grid modernization investments, it's important to note that reliability improvements are expected to be gradual rather than a step change. Advanced Metering Infrastructure (AMI) is expected to provide improvements that will give the Company insight to customers' outages sooner, but during a storm scenario may not allow a faster response. In addition, we expect AMI to help identify nested outages[3] improving response times, although that has been partially implemented in the last few years using Automated Meter Reading. In the last few years during storm situations we have checked for nested outages by "pinging" meters to determine if all the customers have been returned to service when an outage has been identified and service is restored. If a nested outage has occurred, pinging meters will notify us of the issue.

The Company's Fault Location, Isolation and Service Restoration (FLISR) devices will be installed gradually on the system and will move through several stages prior to being fully automated, thus improvements are expected to be a series of small step improvements. Based on this, the ability to gain data that is more representative will take many years to implement. A comparison from before and after would require multiple years of data to ensure the variability in weather can be taken into account, as well as requiring the FLISR devices to be in the fully automated mode.

An alternative metric for the Commission's consideration is to instead have the Company provide data on individual feeder level outages with feeder level events and provide data showing reductions in customers impacted by an event and the estimated restoration time improvements due to the sectionalizing and lowered patrol time for three years after 20 feeders have had FLISR devices installed for at least one year. We believe this will show the value of FLISR to the Commission without creating a

[3] A nested outage is a second outage event downstream from the main outage event.

long term, ever increasing report size. The Company is presently tracking the successful operation of the Intelliteam devices that have been in the field for several years and estimating the improvements from the successful operation. The Company expects to expand its tracking as FLISR devices are installed and would be glad to share this information with the Commission.

2. ACTION PLAN FOR FAILURES TO COMPLY BY WORK CENTER

a. Reliability Performance as Compared to Standards

- **Minn. R. 7826.0500 subpart 1.E requires the Company to provide "[a]n action plan for remedying any failure to comply with the reliability standards set for in Minn R. 7826.0600 or an explanation as to why non-compliance was unavoidable.**

- **Order Point 12 from Attachment B of the Commission's January 28, 2020 Order in Docket No. E002/M-19-261 requires the Company to provide the causes of sustained customer outages, by work center.**

As we have noted in previous annual reports, due to the fact that the standards set by the Commission are currently based on a five-year rolling average of performance within each work center, 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 a MED can quickly erode a standard that is based on average performance. Outlined in Table 4 below 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.

TABLE 4 – NEAR MISS STORM DAYS BY WORK CENTER

Region	Date	CMO on Days within 10% of Storm Threshold	CMO on Days within 11-20% of Storm Threshold	CMO on Days within 21-30% of Storm Threshold	SAIDI on Days within 10% of Storm Threshold	SAIDI on Days within 10-20% of Storm Threshold	SAIDI on Days within 20-30% of Storm Threshold
Metro East	7/20/2019			2,068,547			4.9
Region Total Impact		0	0	2,068,547	0.0	0.0	4.9
Metro West	6/30/2019		2,273,049			3.8	
Region Total Impact		0	2,273,049	0	0.0	3.8	0.0
Northwest	4/7/2019	863,170			7.1		
Northwest	9/17/2019		816,518			6.7	
Northwest	12/7/2019	847,416			7.0		
Region Total Impact		1,710,586	816,518	0	14.1	6.7	0.0
Southeast	None						
Region Total Impact		0	0	0	0.0	0.0	0.0
MN Total Impact		1,710,586	3,089,567	2,068,547	1.3	2.4	1.6

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

	TMED	W/In 10%	W/In 11-20%	W/In 21-30%	Avg Monthly Custs	30% of TMED CMO
Metro East TMED	6.39	5.8	5.1	4.5	421,107	1,883,613
Metro West TMED	4.36	3.9	3.5	3.1	605,991	1,849,485
Northwest TMED	7.72	6.9	6.2	5.4	121,055	654,180
Southeast TMED	9.36	8.4	7.5	6.6	128,937	844,792

As can be seen in the write ups below, in most instances, these near miss days contribute enough to the SAIDI, SAIFI, and CAIDI metrics to move the work center above the standards set by the Commission.

The Company will continue our on-going assessments of reliability, seeking to implement system improvements and maintenance to achieve the largest improvements in reliability measurements. We are committed to providing reliable service to our customers and discuss the specific work centers below.

1. *Metro East*

Our SAIDI and SAIFI in the Metro East work center were both within the standard for the year, and both improved significantly over the previous year. SAIFI was at its lowest level over the last ten years and the SAIDI result was also second best over the last five and top three over the last ten. Both show a historical downward trend.

CAIDI was over the standard by 3.4 minutes. CAIDI is an index that is relational to SAIDI and SAIFI. Despite improved performance of SAIDI and SAIFI, CAIDI can show a decline.

The top single weather-related day occurred in the height of the summer and had heavy impact from wind, lightning, and trees to all three indices. This individual day contributed to 4.9 SAIDI minutes, 0.2 SAIFI, and 4.3 CAIDI minutes. If you expand to include the top five days, they contribute 15.3 SAIDI minutes, 0.08 SAIFI, and 9.5 CAIDI minutes.

2. Metro West

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

3. Northwest

Our SAIDI, SAIFI, and CAIDI in the Northwest work center did not meet the standards for the year. SAIDI was over by 3.2 minutes; SAIFI was over by 0.02; and CAIDI was over by 0.5 minutes.

In 2019, we were over on all three indices, but the deltas were small, and they were heavily impacted by just a few days that we've identified as near misses to being classified as MEDs. The top three outage days in Northwest added 20.9 minutes to SAIDI; 0.14 to SAIFI; and 7.2 minutes to CAIDI. On two of those days the heavy impact was a result of weather-related events, while the third was a result of damage by the public.

On the first of the two weather-related days, the impact was due to a single mainline feeder being struck by lightning. This feeder was serving a large number of customers and this single event contributed heavily to the degradation of the reliability metrics: 7.1 minutes to SAIDI; 0.04 to SAIFI; and 3.5 minutes to CAIDI. The other day was a combination of several distribution and transmission events mainly attributable to lightning. The events on these days had a combined impact of 6.7 SAIDI minutes; 0.04 SAIFI; and 3.9 CAIDI minutes.

The other top impact was an event caused by damage by the public. A semi-truck collided with a structure down guy wire and caused an interruption. This single event contributed an impact of 7.0 SAIDI minutes; 0.04 SAIFI; and 3.8 CAIDI minutes.

4. Southeast

Our SAIDI, SAIFI, and CAIDI in the Southeast work center did not meet the standards for the year. SAIDI was over by 34.3 minutes; SAIFI was over by 0.17 interruptions, and CAIDI was over by 17 minutes.

In 2019, the Southeast region experienced weather-related impacts that resulted in a small percentage of days contributing large impacts to all three indices. It's important to note that the Southeast work center did not have any near miss days for purposes of identifying MEDs. Instead, twice during the year, we had weather impacts that spanned over back-to-back days. Had the impact of either of these events occurred on the same calendar day, both would have been considered a MED and removed from the normalization results. But because these two events occurred over the course of two days, the two events contributed a total of 21.2 SAIDI minutes; 0.08 SAIFI; and 12.2 CAIDI minutes.

In addition to these events, there were a few other days with moderate weather activity and/or single large events (poles fires/public damage) that also had impact on the results. Encompassing all the top ten events—or less three percent of all days in 2019—they contributed a total of 42.9 SAIDI minutes; 0.19 SAIFI; and 21.5 CAIDI minutes.

In the Southeast work center, the top causes of customer interruptions in 2019 were:

- Vegetation (Trees) – Accounted for 16 percent of all interruptions in the Southeast work center. Over 60 percent of the tree interruptions in 2019 occurred over the course of seven days during the year.
- Damage from the Public – Accounted for 12 percent of all interruptions in the Southeast work center. Over 65 percent of the damage from the public in 2019 was from vehicles hitting poles. In 2019, the total interruptions from damage from the public is almost double the five-year average.
- Cable Failures – Accounted for 8 percent of all interruptions in the Southeast work center. Over 33 percent of the cable failures in 2019 occurred because of a larger than normal substation event.
- Intentional – Accounted for 8 percent of all interruptions in the Southeast work center. These are events where it is necessary to take an outage to do field repairs.
- Unknown Cause – In 8 percent of circumstances, the cause of the interruption cannot be determined. Being unable to determine the cause in 8 percent of cases is generally consistent with the three-year average for this cause code.

As described in Attachment C, the Company's Report on Staffing and Reliability in the Southeast Work Center, the company is committed to understanding the root cause of the reliability issues in the Southeast work center and developing plans for system improvements. We will continue to evaluate, monitor, and report our progress approximately 30 days after the end of each quarter up until the Commission considers this Annual Service Quality filing.

b. Worst Performing Feeders by Work Center

- **Minn. R. 7826.0500, Subpart 1.H, requires the Company to provide "to the extent technically feasible, circuit interruption data, including identifying the worst performing circuit in each work center, stating the criteria that utility used to identify the worst performing circuit, stating the circuits SAIDI, SAIFI, and CAIDI, explaining the reasons that the circuit's performance is in last place, and describing any operational changes the utility has made, is considering, or intends to make to improve its performance."**

- **In the Commission's April 7, 2006 Order in Docket No. E-002/M-05-551, the Commission increased the number of feeders that the Company includes in this portion of the report to 25 per work center, for a total of 100. The Commission's April 7, 2006 Order also directed the Company to work with Commission staff on the format of the Worst Performing Feeder portion of the Annual Report.**

Attachment E to this report provides the resulting feeder performance data by work center, in two sections. Attachment E includes a column noting the city where the substation for each feeder is located.

The feeder numbers and substation names in Attachment E have been marked as protected data, but pursuant to the Commission's discussion of our last Annual Report, the Company has added a column providing publicly the City in which the substation is located. The protected data is "security information" as defined by Minn. Stat. § 13.37, subd. 1(a). Xcel Energy believes the information could be manipulated to reveal the number of customers served by a particular feeder. 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 report.

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 top feeders in each region that were identified as poor performers and needing operational change(s) 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.

There are four feeders listed on Attachment E in the FPIP section which were also identified in the 2018 Report as FPIP feeders. Below, we provide additional information regarding reasons for the poor performance and operational changes planned or completed.

Metro East / Feeder C (Attachment E, Page 1)
On July 15, 2019, a large limb fell off a Maple tree, breaking two wooden Cross-arms. This accounted for 46 percent of Customer Minutes Out (CMOs) on this feeder. A project is planned to replace five bad crossarms and install ten ClampStars to reinforce automatic splices. This work is scheduled to be completed in June 2020.

Metro West / Feeder C (Attachment E, Page 2)
The lightning arrester that caused the September 20, 2018 feeder outage was replaced. The Company also installed one fused single-phase Load Break Center (LBC), which should allow for better sectionalizing. In addition, the Company replaced approximately 1000 feet of 1/0 cable and installed approximately 2500 feet of new cable to loop two separate radial taps. Within the next two years, the Company is scheduled to replace two unfused one phase LBC's and install six new

fused LBC's along with replacing one three phase fused tap with Vacuum Fault Interrupter (VFI) for additional sectionalizing tap cables.

Northwest Feeder A_ (Attachment E, Page 3)
92.5 percent of CMOs occurred on April 7, 2019, when a lightning strike hit feeder and locked out the feeder breaker. Trouble patrolled the feeder at that time and found the cutout and lightning arrester destroyed. The field personnel cleared the equipment and re-energized feeder.

Northwest Feeder B_ (Attachment E, Page 3)
79.7 percent of CMOs occurred on April 11, 2019 due to conductor contact due to galloping wires that occurred during icing weather conditions. The Company will continue to monitor icing on this feeder and determine if other actions are needed in the future.

3. BULK POWER INTERRUPTIONS

- **Minn. R. 7826.0500, Subpart 1.F requires the Company to provide "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 2019, 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 F** to this report. Since the incidents shown were reactionary due to storms, public damage, or other activities associated with random and unforeseen events, no plans have been developed to address the specific issues encountered. However, the Transmission Line Performance (TLP) work area works very closely with the area account representatives and trouble men, Transmission Construction, System Operations, and other work areas to proactively inspect and maintain our infrastructure. When determined applicable, TLP will apply specific asset renewal or reliability enhancement programs to identified circuits that extend the circuit's service life and enhances its reliability.

The transmission line names in Attachment F have been marked as protected data. This information is "security information" as defined by Minn. Stat. § 13.37, subd. 1(a). Xcel Energy believes the information could in some circumstances be manipulated to reveal potential vulnerabilities in our system. 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 report.

4. OUTAGE COMMUNICATIONS

a. Outage Communications to the CAO

- **Minn. R. 7826.0500, Subpart 1.G requires the Company to provide "a copy of each report filed under part 7826.0700." Minn. R. 7826.0700 requires the Company to "promptly inform the commission's Consumer Affairs Office (CAO) of any major service interruption" occurring on the utility's system with certain information.**

"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 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. During 2019, there were 214 outages on Xcel Energy's system that meet the definition of "major service interruption." Please see **Attachment G** for a summary of the 2019 qualifying outages.

Attachment G 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 number of customers served by a particular feeder. 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 report.

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.

As discussed in previous annual reports, 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 which communities were 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 and handoffs, 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 2019, we did not send an email notice to the CAO for 5 of 214 major service interruptions. All five of the notices not sent were due to human error.

In our petition, we have requested a rule variance from Minn. R. 7826.0500, Subpart 1.G, which requires a copy of each report filed under Minn. R. 7826.0700. The Company has requested a rule variance primarily because it is administratively burdensome for the Company to prepare a redacted attachment with all 200+ notifications and because the CAO and the Department have already received the notifications. While the Company believes the rule variance is justified in this circumstance, copies of the qualifying outages can be provided upon request.

Minn. R. 7826.0700 subpart 2 requires a utility to file a written report on any major service interruption in which 10 percent or more of its Minnesota customers were without service for 24 hours or more. During 2019, there were no such interruptions on Xcel Energy's system.

b. Outage Communications to Customers (Estimated Restoration Times)

- **Order Point 3.D in the Commission's February 9, 2018 Order in Dockets No. E-002/M-16-281 and E-002/M-17-249 requires the Company to provide:**

  "[a] summary of the Company's estimated response time to customers and steps the Company is taking to measure and communicate more accurately the Company's estimated response time to customers. The Company has agreed to provide summary ERT data on a going-forward basis as part of these Annual reports and proposed the data would be summarized as to the accuracy of our ERT estimates for the calendar year."

- **Order Point 2 (Attachment B, item 9) in the January 28, 2020 Order in Docket No. E002/M-19-261 also requires the Company to provide the estimated restoration time accuracy for 0 to +30 minute window.**

On a monthly basis, the Company pulls year-to-date data from its Network Management System (NMS) that itemizes each outage along with associated outage data such as: (i) time of outage; (ii) number of customers impacted, interrupting device; (iii) level of outage; (iv) estimated restoration time (ERT) pre-determined by the Company; and (v) actual restoration time. The information is used to analyze the accuracy of our estimated restoration times when compared to the actual restoration time.

By way of background, when an outage is first discovered (by a customer calling in or otherwise), more refined estimates get developed as the Company learns more information. When an outage is identified, an initial automated message is sent to the customer within the first 15 minutes of our Control Center being notified of a customer outage. This message confirms their outage if they reported it or notifies them of an outage we believe is impacting them. An ERT is not communicated in the initial message. After 20 minutes of an identified outage, another automated message is sent providing an update. If an ERT is available, it would be provided at this time. A standard three-hour outage estimate is assumed when we first discover an outage. Then, another one is created when the Company's first responder gets on site in the field and begins their investigation. Finally, another, more refined estimate, is developed when field personnel are able to assess the cause of the outage and

determine the necessary remediation action. Additional messages to the customer during the outage will be dependent on ERT changes or the outage being closed. The final message the customer receives will confirm their power has been restored and provides a way for the customer to report back if they are still without power.

Starting in 2018, we removed the initial (standard three-hour) ERTs from the calculation of our accuracy (and also stopped communicating the initial ERT to our customers). The 2018 and 2019 metric included ERTs generated by our model (which is based on the impacted device(s) and algorithms) and ERTs entered by field and control center personnel. The model usually provides an estimate within 15 minutes after notification of an outage. The -90 to 0 minute window of accuracy used by the Company to track our accuracy of reporting to customers, but the Commission also requested that we provide information about our accuracy for the 0 to +30 window of accuracy; however, we have provided "+1 to +30" in order to ensure we are not double counting any instances where the outage is restored exactly at 0. We provide Tables 5 and 6 below which summarizes the annual percent accuracy of ERT estimates provided to electric customers in the NSPM Operating Company, as well as the Minnesota Jurisdiction for the years 2015 thru 2019:

Table 5

Estimated Restoration Time Accuracy						
Entity	Accuracy Criteria	2015	2016	2017	2018	2019
NSPM	Within -90 to +0	44.8%	45.9%	43.5%	43.6%	48.3%
MN Only	Within -90 to +0	41.2%	45.7%	43.1%	43.5%	49.9%

*Due to metric refinement, 2015 to 2017 results are not comparable to past Annual Reports

Table 6

Estimated Restoration Time Accuracy						
Entity	Accuracy Criteria	2015	2016	2017	2018	2019
NSPM	Within +1 to +30	5.7%	8.2%	10.1%	8.0%	10.0%
MN Only	Within +1 to +30	5.7%	8.3%	10.0%	7.5%	10.4%

Overall, ERT Accuracy improved nearly five percentage points in NSPM and over six points in MN in the -90 to 0 minute window from 2018 to 2019.

One reason is we saw our manual ERT's (i.e., the estimates field representatives provide after they've been able to assess the cause of the outage and determine the

necessary remedial action) stay strong after improving greatly from 2017, from 29.7 percent in 2017 to 51.8 percent in 2018 to 51.6 percent in 2019. A larger driver to this consistent performance is a concerted effort that started in 2017 to work with our first responders to provide more manual ERT estimates from our Field and Control Center personnel once they arrived "on-site" and were able to assess the cause of the outage and determine the necessary remediation. This training has continued every year since and is paying off.

The accuracy of our onsite (i.e., an estimate when the first responders arrive on site in the field and begin their investigations) ERT estimates also improved from 31.9 percent in 2018 to 46.6 percent in 2019. While some of this had to do with a few favorable events, the training also emphasizes going into "on-site" mode once a crew arrives on site, which impacts the frequency of timely updates and therefore the overall metric.

We continue to provide several proactive communication channels when an outage occurs such as: email, text, and push notification via a mobile app. We also provide notification channels that require the customer to pull the information such as: our website, social media and outage maps.

Pull channels (website, social media, and outage map) leverage the same data sources as our push channels. This ensures consistent information across channels and provides additional resources to our customers. Customers can also receive information via two-way text. A customer can text us "OUT" to report an electric outage or "STAT" and receive an on-demand text message as to the status of their outage.

In 2019, the primary work done to address outage communication improvements was continued training, alignment on individual performance metrics, and outreach to specific customers to update their preferred channel for notifications. Also, efforts to stabilize and improve systems and tools used during outages helps to improve confidence in providing a consistent experience. Moving forward, we anticipate our focus will be on updating our digital platforms (notifications and web in particular) that are used to communicate with customers. Scope for this work is in progress but having more up-to-date platforms allows us the flexibility to create more targeted and timely communications for our customers that meet their needs during outages.

5. VOLTAGE FLUCTUATIONS

- **Minn. R. 7826.0500 Subpart 1.I requires the Company to provide "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 five percent, or a minimum of 114 volts to a maximum of 126 volts. As shown in the table below, 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 2019, the Company conducted 185 voltage investigations. These investigations resulted in a diagnosis of a specific voltage problem in 26 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.

6. STAFFING

- **Minn. R. 7826.0500 Supb. 1.J requires the Company to provide "data on staffing levels at each work center, including the number of full-time equivalent positions held by field employees responsible for responding to trouble and for the operation and maintenance of distribution lines"**

- **In Order Point 8, or Attachment B in the Commission's January 28, 2020 Order in Docket No. E-002/M-19-261, the Commission required the Company to provide "separate information on the number of contractors for each work center."**

In the Company's February 27, 2020 and March 9, 2020 compliance filings in Docket No. E002/M-19-261 we provided the data on staffing levels at each work center from 2010 to 2018, separately reporting (1) field employees responsible for responding to trouble and for the operation and maintenance of distribution lines and (2) support staff at each work center. In preparation of those submissions, we examined the job codes historically used for our annual reports. We noted past filings included a count of field employees, which included jobs such as Meter Technicians. Based on the rule, we believe that employees like Meter Technicians, who are responsible for setting meters, and not responding to trouble or otherwise operating and maintaining the system, should not have been included in the number of field employees. The data we provided for 2010 to 2018 in our recent compliance filings was updated for each work center to ensure consistent reporting of applicable job types year over year. We regret the discrepancy between the staffing levels reported previously and those reported in this report.

Table 7 below reflects staffing levels by work center. This Table also includes counts for work center personnel that support the electric distribution function such as Administrative Assistant, Ops Coordinators, Designers, Field Operations Associates, Operations Managers, Operations Specialists, Electric Meter Specialists, Distribution Design Supervisor, Field Ops Supervisor, Meter Technician, etc. The total headcount reflects Company employees with a limited number of staff augmentation employees that fill the job of electric service designers.

TABLE 7 – STAFFING LEVELS BY WORK CENTER

	Metro East	Metro West	Northwest	Southeast	Other *
2019 Trouble and O&M Staffing	123	177	30	49	45
2018 Trouble and O&M Staffing	124	180	32	49	47
2019 Work Center Support (and Contractors)	56 (3)	67 (12)	21 (1)	29 (2)	32 (3)
2018 Work Center Support (and Contractors)	59 (3)	63 (11)	21 (1)	26 (6)	34 (1)

* Xcel Energy personnel associated with the South Dakota / North Dakota work centers provide support in western Minnesota and the Dakotas.

Current open and posted trouble and O&M positions include two in the Metro West work center; three in the Northwest work center, two in the Metro East region, and six positions in the Southeast work center.

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

The contractor counts included in Table 7 above are for a limited number of positions that fulfill the role of Service Designers in our work centers. The Company also hires contractors to perform field and maintenance work, but the Company's contracts with its bargaining employees contain certain agreements regarding when and how contractors can be used. As a general principle, the number of contractors in a region cannot exceed the number of internal field and maintenance personnel. The Company hires contractors to assist with large requests for new service or maintenance projects such as large pole replacement projects discovered through our pole testing program or major distribution line rebuilds. Contractors can also perform outage response if the Company experiences staffing constraints or if there is emergent outage work (for example, an anticipated large storm system) and the

Company determines it is reasonable to redeploy contract crews to the area to respond to expected outages.

Because of the nature of this work, contractors are not assigned to a particular work center. Rather, they work in various work centers depending on the service needs of our customers in Minnesota. Historically, the Company uses the most contractors during the summer months (when most contractor time is used assisting with large requests for new service) and fewer contractors during the winter months. However, the Company does utilize contractors in the winter for programmatic maintenance work, like the pole replacements or distribution rebuilds described above.

C. OTHER RELIABILITY METRICS REQUESTED BY THE COMMISSION

1. MAIFI

- **In the Commission's September 3, 2013 Order in Docket No E002/GR-12-961 at Order Point 32 the Commission required the Company to "provide additional reporting of its currently available Momentary Average Interruption Frequency Index (MAIFI) data, such as trend lines, to the extent available."**

- **In the Commission's February 9, 2018 Order in Docket Nos. E002/M-16-281 and E002/M-17-249 at Order Point 3.C., the Commission required the Company to provide "[a]n assessment of MAIFI data."**

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.

Table 8 below contains our 2018 and 2019 MAIFI results followed by definitions of the calculation methodologies we applied. We have included 2018 data as the data that was included in our 2018 filing had not been updated:

TABLE 8 - 2019 MAIFI RESULTS

	Non-Normalized		Xcel Energy QSP Tariff		Xcel Energy Annual Rules	
Region	2018	2019	2018	2019	2018	2019
Minnesota	.77	.82	.63	.60	.75	.77
Metro East	.84	.74	.81	.54	.83	.70
Metro West	.56	.64	.53	.61	.55	.64
Northwest	1.42	1.52	.75	.84	1.42	1.43
Southeast	.92	1.22	.44	.48	.78	.99

Table 9 below provides our MAIFI performance from 2010 to 2019 on a normalized basis using the 2.5 beta method outlined in IEEE 1366-2012. In addition, Table 9 includes non-normalized values per the Commission's decision in Docket No E002/M-18-239.

TABLE 9 – MAIFI 2010 – 2019

With Storms - All Levels, All Causes										
MAIFI(<=5Mins)	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Metro East	1.18	0.80	0.95	0.97	0.70	0.89	0.80	0.82	0.84	0.74
Metro West	1.10	0.89	1.01	0.87	0.82	0.73	0.85	0.61	0.56	0.64
Northwest	1.38	1.59	1.42	1.82	1.51	1.44	1.42	1.37	1.42	1.52
Southeast	1.29	1.09	1.08	0.89	1.20	0.88	1.05	0.73	0.92	1.22
Minnesota	1.17	0.95	1.04	1.00	0.89	0.86	0.91	0.76	0.77	0.82
Tariff - IEEE No Transmission Line, All Causes										
MAIFI(<=5Mins)	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Metro East	0.89	0.59	0.81	0.77	0.55	0.81	0.70	0.65	0.81	0.54
Metro West	0.72	0.52	0.76	0.65	0.67	0.55	0.65	0.51	0.53	0.61
Northwest	0.61	0.38	0.96	0.67	0.81	0.69	0.64	0.85	0.75	0.84
Southeast	0.32	0.22	0.37	0.35	0.34	0.32	0.39	0.37	0.44	0.48
Minnesota	0.72	0.50	0.76	0.66	0.61	0.62	0.64	0.57	0.63	0.60
Annual Rules - IEEE All Levels, All Causes										
MAIFI(<=5Mins)	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Metro East	1.03	0.74	0.87	0.81	0.57	0.82	0.76	0.79	0.83	0.70
Metro West	0.94	0.75	0.96	0.77	0.80	0.64	0.76	0.55	0.55	0.64
Northwest	1.31	0.84	1.42	1.28	1.51	1.44	0.95	1.28	1.42	1.43
Southeast	1.08	1.09	1.06	0.81	0.97	0.88	1.00	0.73	0.78	0.99
Minnesota	1.02	0.79	0.98	0.84	0.81	0.80	0.80	0.71	0.75	0.77

Below is a description of how each of the three methods is calculated:

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)

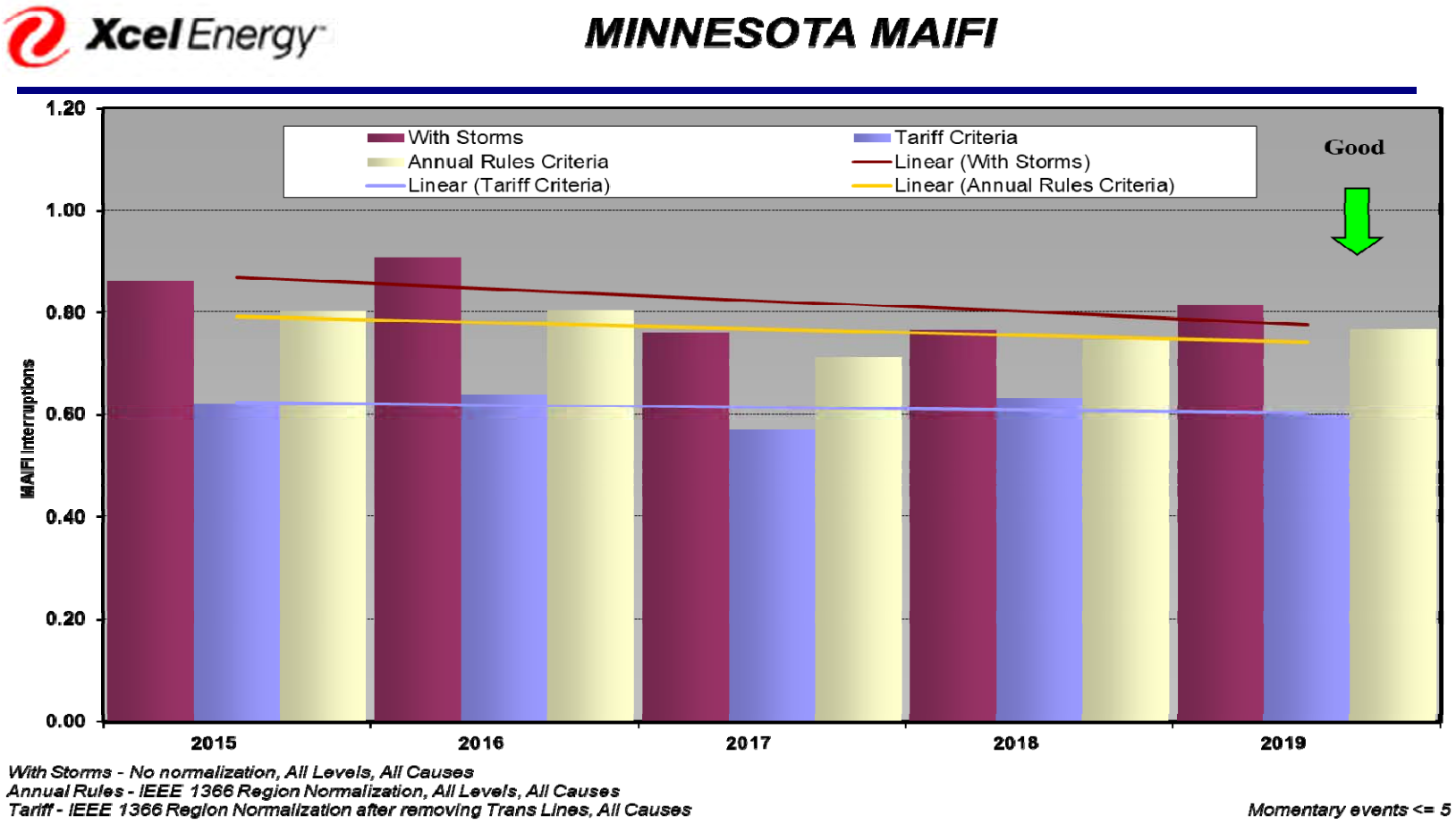
- Excludes outages occurring at Transmission Line level.
- Includes all outage cause codes.
- Calculations are based on the number of customers' billing accounts and meters.
- Excludes all storm days that qualify under IEEE 2.5 normalization method after removing Transmission Line level.

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 the Annual Rules IEEE 2.5 beta normalization outlined in IEEE 1366-2012 using all levels.

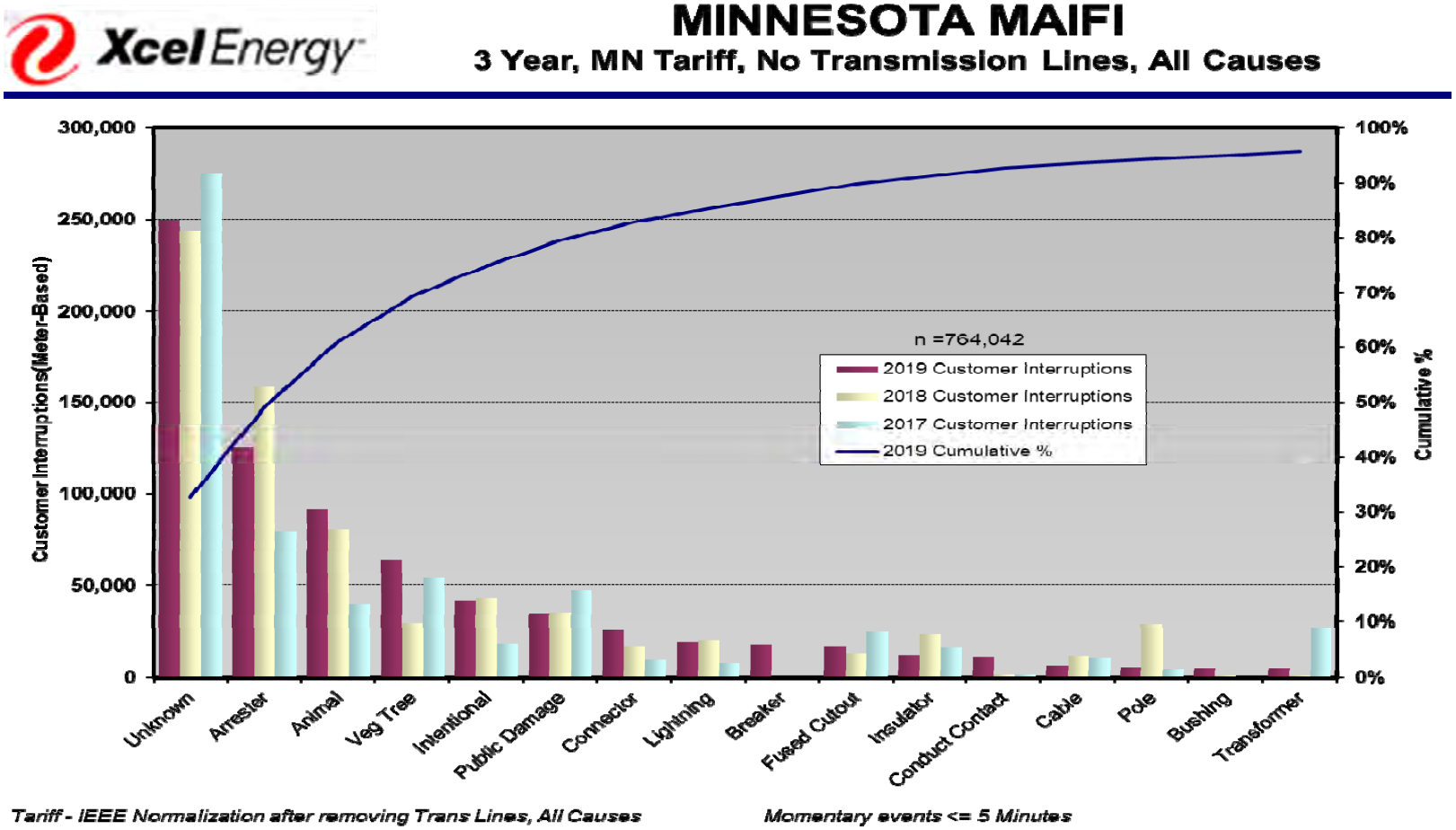
Graph 5 below provides a five-year historical look for Minnesota MAIFI showing the three different normalization methodologies and the associated trend lines.

Graph 5



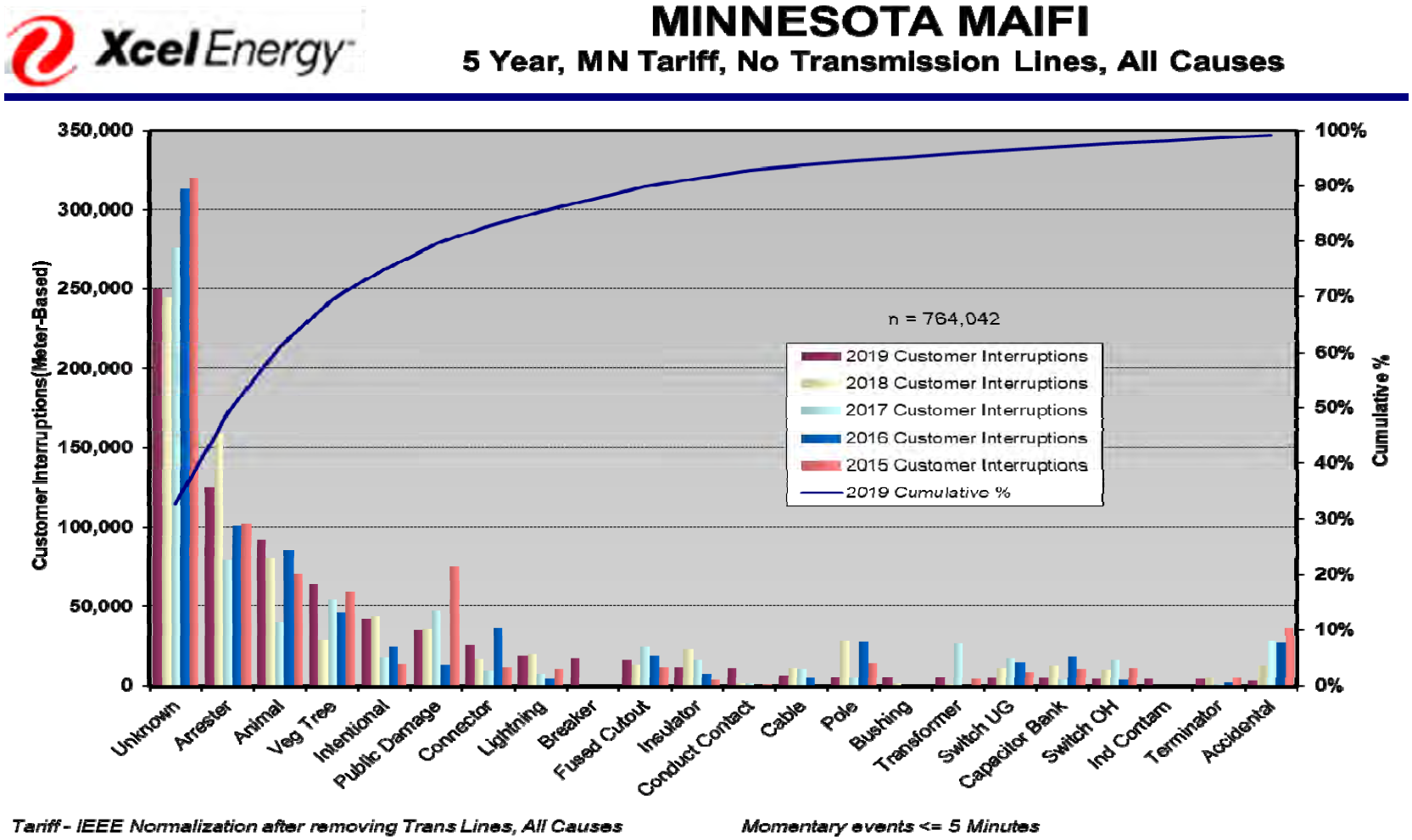
Graph 6 below provides a pareto chart showing the top causes for 2019 interruptions.

Graph 6



Graph 7 below is a pareto chart showing the top causes for interruptions for the past five years.

Graph 7



Attachment H provides the detailed MAIFI results and Customer Interruptions by month and by work center for 2015 to 2019.

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.

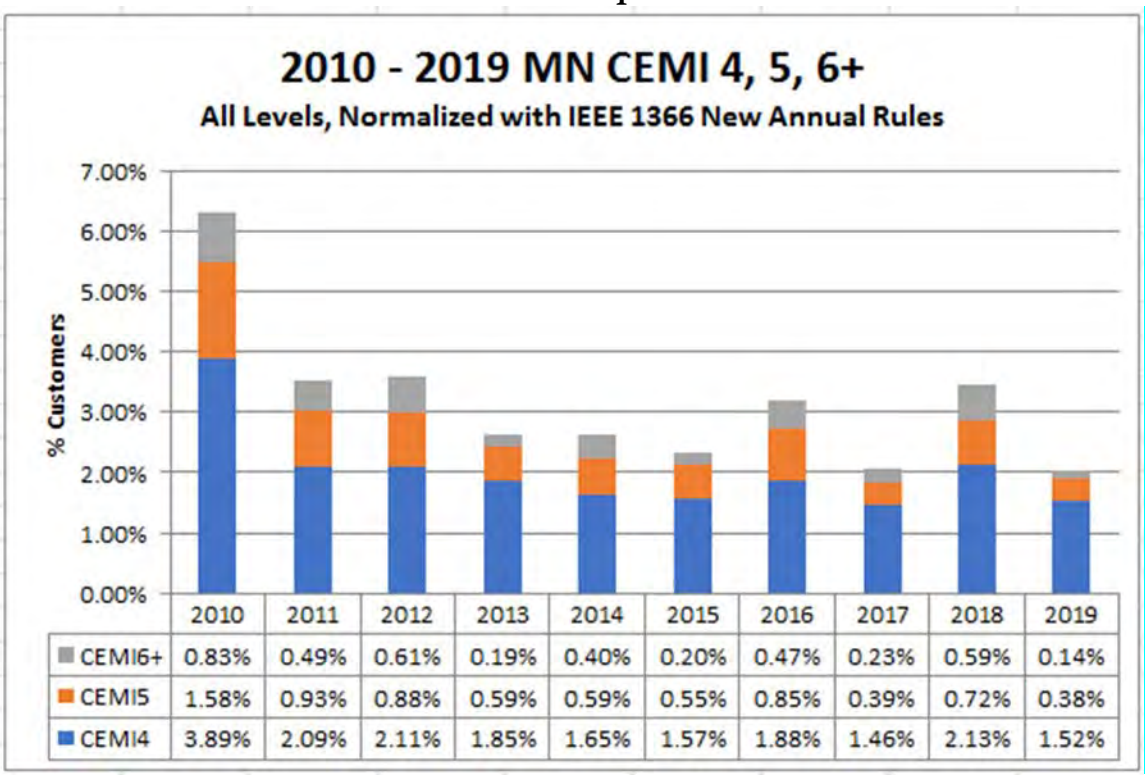
2. **Customers Experiencing Multiple Interruptions (CEMI)**

- **In the Commission's March 19, 2019 Order in Docket No. E002/M-18-239 at Order Point 3.c, the Commission required the Company to provide "CEMI at normalized and non-normalized outage levels of 4, 5, and 6."**

Graph 8 below illustrates CEMI results for 2010-2019, normalized using the IEEE 1366 New Annual Rules methodology. The stacked bar graph breaks out Minnesota customers that experienced 4, 5, or 6 plus events. The total of the stacked bar illustrates customers that had 4 or more outages. As shown, the customers experiencing six or more events are typically a much smaller percentage than those experiencing only four or more events. Internally, the Company tracks those experiencing four or more outages on a 12-month rolling basis and reviews opportunities to improve performance through mitigation efforts such as additional tree trimming or installation of animal protection. To track how the Company compares to other utilities, the Company does participate in an annual EEI benchmarking study. Unfortunately, due to a non-disclosure agreement, no data from this benchmarking study is available outside the Company. Just as SAIDI varies from year-to-year, CEMI will vary from year-to-year typically due to weather patterns.

It's also worth noting that under our QSP tariff, CEMI-related outage credits are paid to customers experiencing six or more outage events in a year based on the tariff normalization methodology.

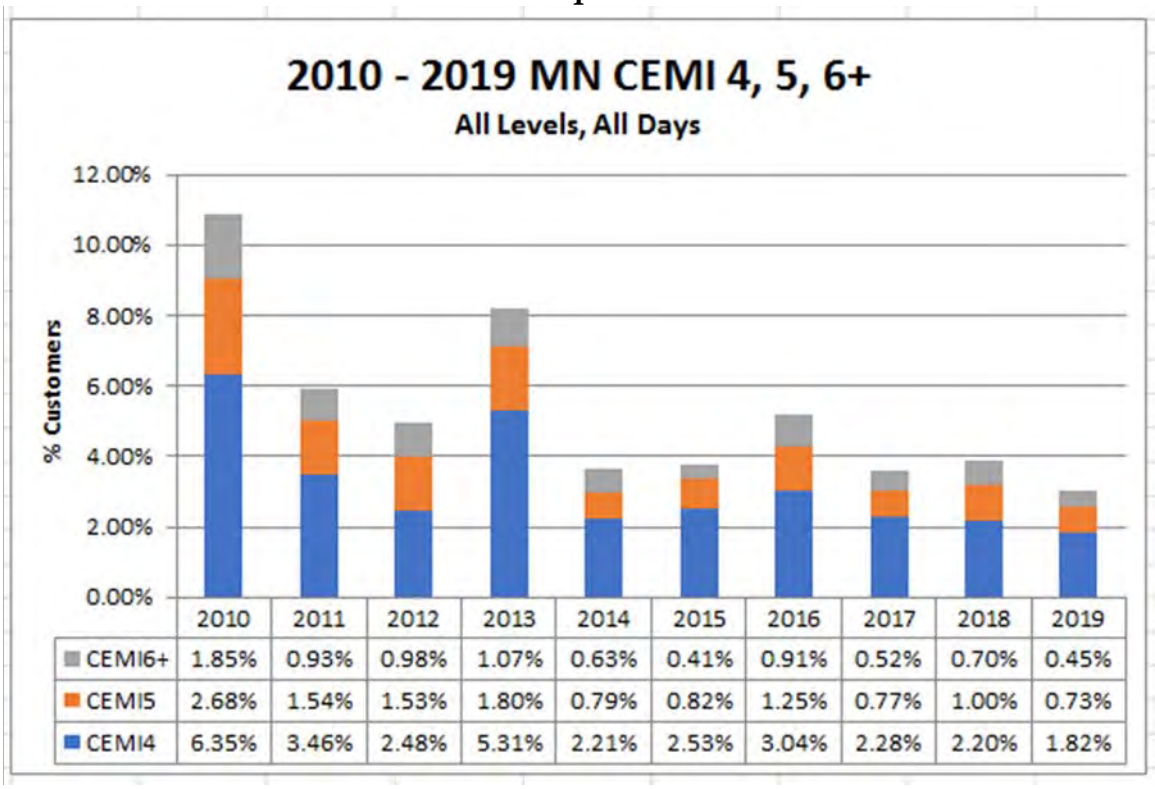
Graph 8



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
CEMI6+	0.83%	0.49%	0.61%	0.19%	0.40%	0.20%	0.47%	0.23%	0.59%	0.14%
CEMI5	1.58%	0.93%	0.88%	0.59%	0.59%	0.55%	0.85%	0.39%	0.72%	0.38%
CEMI4	3.89%	2.09%	2.11%	1.85%	1.65%	1.57%	1.88%	1.46%	2.13%	1.52%

Graph 9 below is a CEMI graph illustrating all days (with MEDs) 2010 – 2019 data.

Graph 9



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
CEMI6+	1.85%	0.93%	0.98%	1.07%	0.63%	0.41%	0.91%	0.52%	0.70%	0.45%
CEMI5	2.68%	1.54%	1.53%	1.80%	0.79%	0.82%	1.25%	0.77%	1.00%	0.73%
CEMI4	6.35%	3.46%	2.48%	5.31%	2.21%	2.53%	3.04%	2.28%	2.20%	1.82%

2019 MN CEMI

NSPM Minnesota 2019 Distribution Circuit Feeder Performance

962 circuits no customers experienced greater than 5 outages
55 circuits less than 1% of customers experienced greater than 5 outages
20 circuits 1%-5% of customers experienced greater than 5 outages
6 circuits 5%-10% of customers experienced greater than 5 outages
2 circuits 10% or more customers experienced greater than 5 outages

Customers experiencing greater than 5 outages in 2019

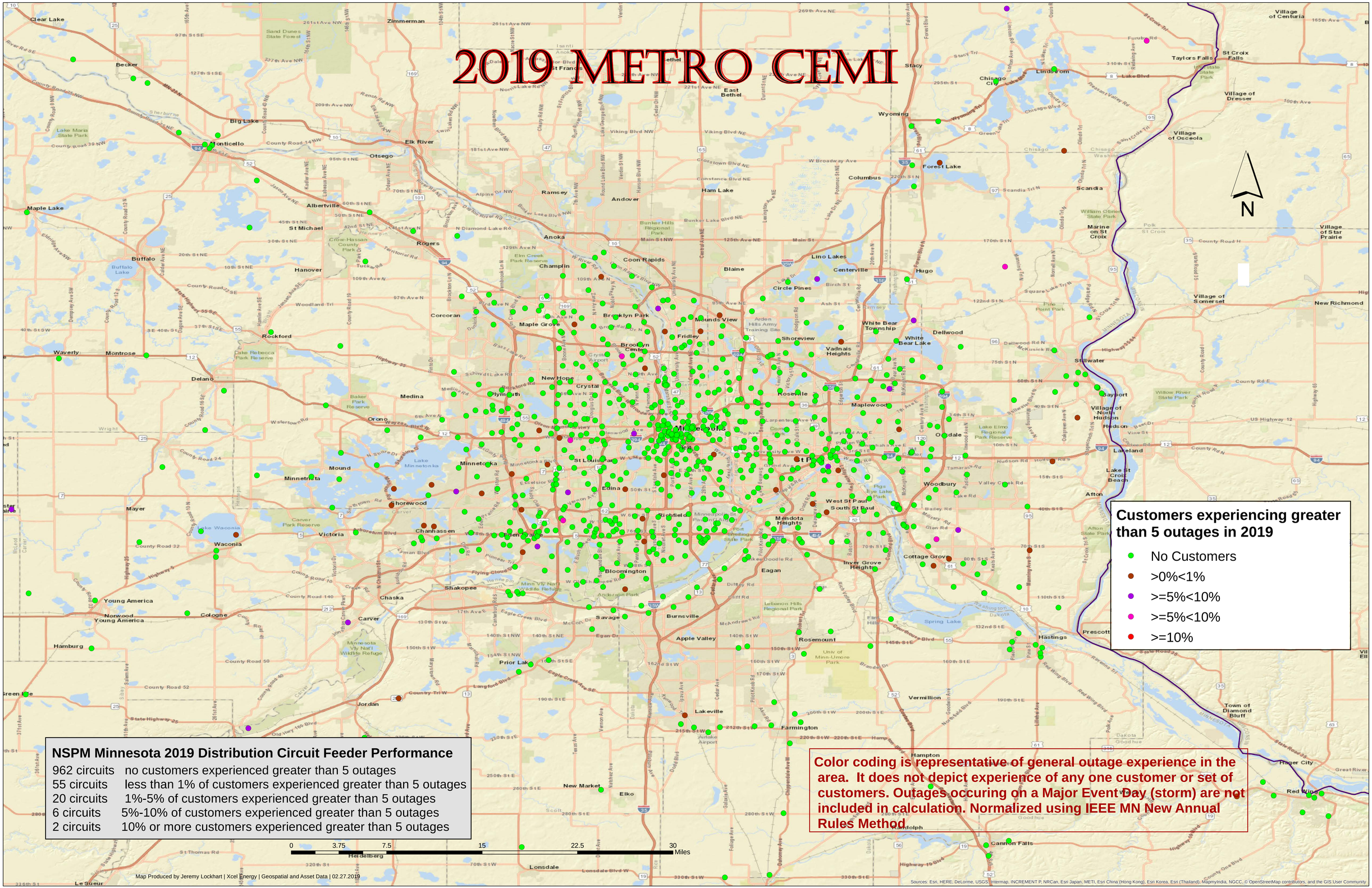
- No Customers
- >0%<1%
- >=5%<10%
- >=5%<10%
- >=10%

Color coding is representative of general outage experience in the area. It does not depict experience of any one customer or set of customers. Outages occuring on a Major Event Day (storm) are not included in calculation. Normalized using IEEE MN New Annual Rules Method

0 12.5 25 50 75 100 Miles

Map Produced by Jeremy Lockhart | Xcel Energy | Geospatial and Asset Data | 02.27.2019

2019 METRO CEMI



- **Docket No. E002/M-19-261 in Attachment B, Order Point 5, the Commission required the Company to provide "[t]he highest number of interruptions experienced by any one customer (or feeder, if customer level is not available.)"**

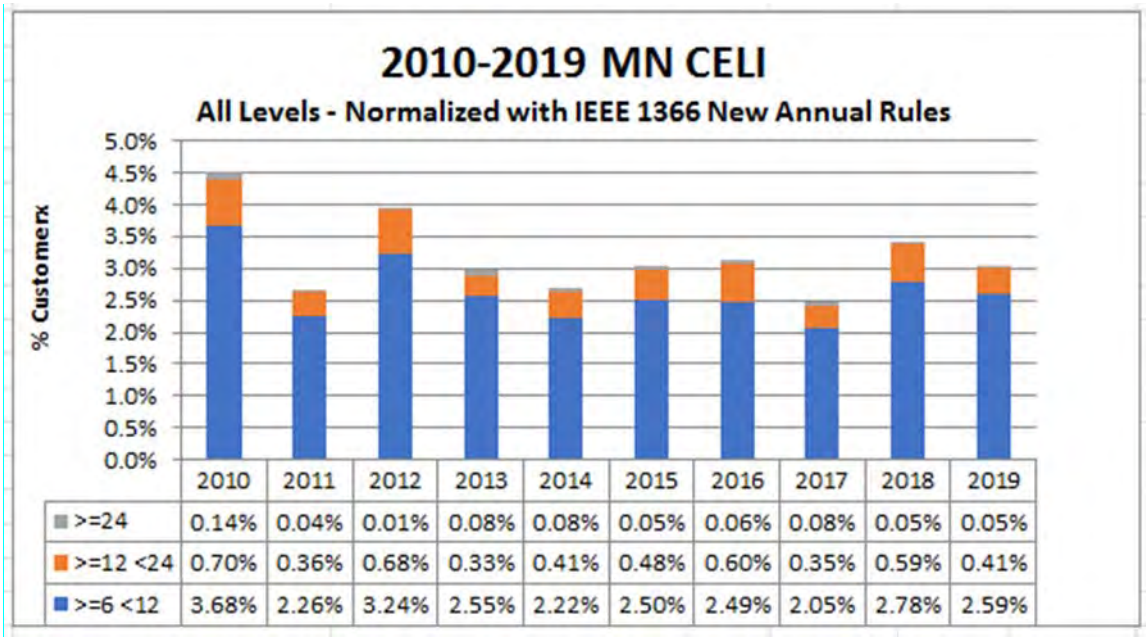
In 2019, one customer had the highest amount of outages, both normalized (13 outages) and all days (14 outages). This customer resides in the Metro East region. The majority of the outages were due to vegetation tree issues (eight outages); three were intentional (one of these was to clear the line for tree trimmers and the other two were to replace bad cable). In addition, there was one interruption due to public damage; one cable failure and one interruption where the reason is unknown. Xcel Energy started the five-year tree trimming cycle in 2020 and is on cycle which should improve reliability on this feeder. In 2019, potential future outage concerns were addressed by upgrading insulators, pins and crossarms on this line. In 2020, the Company will address other outage concerns by upgrading insulators, crossarms, arresters, auto splices and cutouts in additional locations on the circuit.

3. Customer Experiencing Lengthy Interruptions (CELI)

- **In the Commission's March 19, 2019 Order in Docket No. E002/M-18-239 at Order Point 3.D., the Commission required the Company to provide "CELI at intervals of greater than 6 hours, 12 hours, and 24 hours."**

Graphs 10 and 11 below (normalized and all days), illustrates the Company's CELI for the percentage of MN customers that experienced long outages. The outages are bucketed by those greater than 6 hours but less than 12 hours, greater than 12 hours but less than 24 hours and greater than 24 hours during a calendar year. If a customer experienced an outage, this represents the percent chance, by year, of the outage lasting more than 6, 12, or 24 hours. Ten years of data are represented (2010-2019) and are normalized based on the IEEE 1366 New Annual Rules methodology. Table 18 provides a slightly different view than the CELI based outage credits in our QSP Tariff. The Tariff credits are for customers that experience an outage greater than 24 hours based on the tariff methodology. As with the other metrics, although the normalization method attempts to remove the year-to-year variability, variability still occurs, typically due to weather patterns.

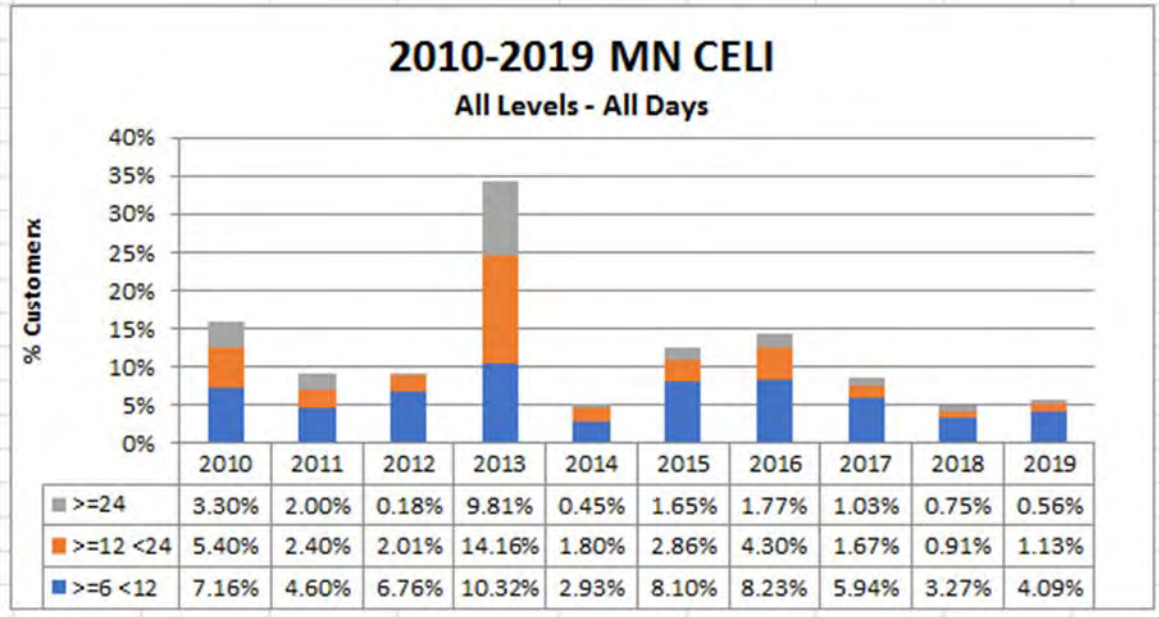
Graph 10



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
>=24	0.14%	0.04%	0.01%	0.08%	0.08%	0.05%	0.06%	0.08%	0.05%	0.05%
>=12 <24	0.70%	0.36%	0.68%	0.33%	0.41%	0.48%	0.60%	0.35%	0.59%	0.41%
>=6 <12	3.68%	2.26%	3.24%	2.55%	2.22%	2.50%	2.49%	2.05%	2.78%	2.59%

Graph 11 below is a CELI graph illustrating all days (with storms) 2010 – 2019 data.

Graph 11



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
>=24	3.30%	2.00%	0.18%	9.81%	0.45%	1.65%	1.77%	1.03%	0.75%	0.56%
>=12 <24	5.40%	2.40%	2.01%	14.16%	1.80%	2.86%	4.30%	1.67%	0.91%	1.13%
>=6 <12	7.16%	4.60%	6.76%	10.32%	2.93%	8.10%	8.23%	5.94%	3.27%	4.09%

- **In the Commission's January 28, 2020 Order in Docket No. E002/M-19-261 at Attachment B, Order Point 7, the Commission required the**

Company to provide "[t]he longest experienced interruption by any one customer (or feeder, if customer level is not available.)"

The duration for the longest outage in 2019 (normalized) was 57 hours and 50 minutes and affected three customers. This outage occurred in the Metro East work center on July 20, 2019 due to a lightning strike. Severe thunderstorms, hail, and winds exceeding 80 mph were experienced on that day, resulting in an IEEE 1366 Opco level major event day (MED). However, July 20th was not a MED day for the Metro East work center based on the IEEE 1366 New Annual Rules method. While Metro East itself did not have a MED, the work center did experience severe storms and contribute to the service territory's total number of outages. Xcel Energy crews were responding to outages in the entire Twin Cities metro area as well as in the South Dakota region. Crews responded to close to 500 outages and restored service to over 34,000 customers.

The longest duration, when we include storms in 2019, was 95 hours and 8 minutes which affected 507 customers. This outage occurred in the part of our Minnesota service territory that is organizationally part of our South Dakota work center but reported in this filing as part of our Southeast Work Center[4] on April 10, 2019 during the two day 'Winter Wesley' storm (2nd bomb cyclone) with blizzard conditions, ice storms and high winds. This outage was caused by public damage and required replacing numerous poles and fixing wires down. During the Winter Wesley storm, the Company restored service to over 50,000 customers in the NSPM territory.

We note that the IEEE Distribution Reliability Working Group does not benchmark CEMI or CELI and the Edison Electric Institute (EEI) benchmark information for CEMI is proprietary and thus we are unable to share it. However, the CEMI information stated here is similar in metric design to what EEI uses (which is the count of customers who experience "x" number of outages or more in a year based on normalized data) based on several counts of outages.

IV. SERVICE QUALITY PERFORMANCE FOR 2019

A. METER READING

[4] As we described in our Southeast work center report, **Attachment C**, there are approximately 8,000 Minnesota customers served by service centers in Pipestone and Slayton, Minnesota that are organizationally part of our South Dakota work center (i.e., the manager overseeing the field and maintenance personnel in Pipestone and Slayton works out of the Sioux Falls, South Dakota office). For reliability reporting purposes in this report, however, the reliability of these 8,000 customers are reported as part of the Southeast work center.

1. Reporting Under Commission Rules

- **Pursuant to Minn. R. 7826.1400, Subparts A-C, the Company must provide various metrics on its meter-reading performance, including for each customer class and for each calendar month:**

  "The number and percentage of customer meters read by utility personnel.
  The number and percentage of customer meters self-read by customers.
  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 I** to this report. Attachment I includes the reporting refinements discussed in our July 31, 2013 Reply Comments in Docket No. E002/M-13-255 which excludes multiple reads per month when reporting meter read totals so that the "Percent Read by Company" does not exceed 100 percent in any given month, and we have reported the number of meters installed by month rather than only a year-end total.

We have also removed "deleted meters" from the total number of meters installed per month. The "deleted meters" designation is given to meters that were incorrectly entered into the system and were never truly installed at a premise. This ensures our data is more representative of meters in the field. Table 20 below contains the data for 2019 meters read by the Company.

Table 10

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

	Residential	Commercial	Industrial	Other	A Total	B Total Number of Meters Installed	A÷B Percent Read by Utility (Company)
JANUARY	1603012	159926	12828	3929	1779695	1782232	99.86%
FEBRUARY	1604171	160036	12838	3930	1780975	1783597	99.85%
MARCH	1605070	160074	12857	3917	1781918	1784542	99.85%
APRIL	1605828	160020	12862	3912	1782622	1785172	99.86%
MAY	1607057	160091	12875	3914	1783937	1786473	99.86%
JUNE	1608226	160172	12889	3904	1785191	1787859	99.85%
JULY	1609383	160236	12895	3908	1786422	1789209	99.84%
AUGUST	1610800	160310	12913	3906	1787929	1790754	99.84%
SEPTEMBER	1612297	160441	12919	3905	1789562	1792508	99.84%
OCTOBER	1613436	160710	12927	3909	1790982	1793864	99.84%
NOVEMBER	1615023	161004	12922	3905	1792854	1795659	99.84%
DECEMBER	1616531	161233	12913	3900	1794577	1797613	99.83%

*The number of reads per month is based on the meter read schedule for the month and reflects all readings in the business month, regardless of when the meter was read. For example January 2019 runs from December 31 to February 4 2019 to capture all meter read routes. This is a change from past reports and better reflects the meter reading counts per month. Previous numbers reflected readings that were read ONLY in that month, so months like February are naturally smaller totals because of 28 days vs 31 in others.

- **Pursuant to Minn. R. 7826.1400, Subpart D, the Company must provide various metrics on its meter-reading performance, including for each customer class and for each calendar month:**

  "Data on monthly meter reading staffing levels by work center or geographical area."

The following data for 2019 includes full-time equivalent numbers and does not count temporary staff positions. The "Other" category numbers include Xcel Energy personnel located in our Sioux Falls Service Center who read meters in western Minnesota and South Dakota.

TABLE 11 – METER READING STAFF LEVELS

	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19
Metro East	3	3	3	3	3	3	3	3	3	3	3	3

Metro West	3	3	3	3	3	3	3	3	3	3	3	3
Northwest	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Southeast	3	3	3	3	3	3	3	3	3	3	3	3
Other	1	1	1	1	1	1	1	1	1	1	1	1

Meter reading staffing levels during 2019 remained the same compared to 2018.

2. Meter Equipment Malfunctions Tariff Annual Report

- **In the Commission's November 30, 2010 Order in Docket Nos. G002/CI-08-871 and E,G002/M-09-224, at Order Point 2, the Commission directed the Company to file the following information with its annual electric service quality reports filed pursuant to Minn. Rules, Part 7826.0500:**
  - **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[5], completing a total of 3,815 electric and 3,626 natural gas orders with an average response time of 3.49 and 5.03 days, respectively. We additionally completed 244 electric and 619 natural gas field orders for which we experienced access and/or environmental issues, both allowable Exclusions under the tariff. We provide our detailed results in Attachment J.

In 2019, the Company had three remediate upon referral work orders that were completed within the one-day maximum as required per the tariff.

While this report focuses on 2019 performance, we note that customer and employee safety is top of mind during the current COVID-19 outbreak. Being mindful of the customer contacts that can occur with malfunctioning gas meters such as entering

[5] NSPM Electric Rate Book, General Rules and Regulations, Section No. 6 Meter Equipment Malfunctions, Sheet Nos. 17.2 – 17.4

premises to access inside meters and/or to perform relights, we note that non-emergency work orders are being deferred to future follow-up.

B. INVOLUNTARY DISCONNECTIONS

- **Pursuant to Minn. R. 7826.1500, Subparts A-D, the Company must provide various metrics related to involuntary disconnections of service, including, for each customer class and each calendar month:**
  - **The number of customers who received disconnection notices.**
  - **The number of customers who sought cold weather rule protection under chapter 7820 and the number who were granted cold weather rule protection.**
  - **The total number of customers whose service was disconnected involuntarily, and the number of these customers restored to service within 24 hours.**
  - **The number of disconnected customers restored to service by entering into a payment plan.**

Table 12 below provides the required information as outlined above.

TABLE 12
DISCONNECTION NOTICES, REQUESTS FOR COLD WEATHER RULE PROTECTION

	Jan-19		Feb-19		Mar-19		Apr-19		May-19		Jun-19		Jul-19		Aug-19		Sep-19		Oct-19		Nov-19		Dec-19		Total 2019	
	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 disconnect notices sent [1, 2]	68,915	15,085	70,174	14,004	78,448	19,683	61,619	12,824	41,105	13,009	21,543	10,760	21,321	8,690	26,169	12,339	30,301	4,429	42,720	3,145	22,486	11,221	36,747	9,886	521,548	135,075
Number of customers who received disconnect notices [1]	66,945	4,957	66,682	5,074	75,647	5,484	57,286	5,382	39,596	5,166	20,850	4,236	19,838	4,717	25,825	5,303	25,513	4,101	36,185	5,264	22,741	5,003	34,901	4,799	492,009	59,486
Number of customers who sought cold weather rule protection [1]																										
Sought	6,433	0	5,264	0	10,261	0	10,261	0	0	0	0	0	0	0	0	0	0	0	20,116	0	16,274	0	12,104	0	80,713	0
Granted	6,433	0	5,264	0	10,261	0	10,261	0	0	0	0	0	0	0	0	0	0	0	20,116	0	16,274	0	12,104	0	80,713	0
Number of customers locked for nonpayment	501	19	347	16	574	50	1,484	53	3,040	35	2,458	45	2,188	71	2,288	69	2,035	50	433	18	810	23	535	8	16,693	457
Number of total customers restored to service within 24 hours	337	0	179	3	337	11	470	11	834	0	785	5	854	8	889	12	766	11	193	2	393	5	281	1	6,318	69
Number of customers restored to service with pay arrangements	138	0	39	0	79	0	151	1	573	1	541	0	654	5	668	9	840	17	153	1	305	2	109	1	4,250	37

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. Under Minn. R. 7820.2400 the utility is required to send duplicate notices to multiple addresses for each disconnected customer: the service address, mailing address, and any third party authorized on the account. This requirement increases the number of notices sent out each year.

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

In preparation of this report, it came to our attention the data previously reported for Item D (requests for Cold Weather Rule Protection) was reported at the NSPM level which also included data for North Dakota and South Dakota. The data in Table 21 above reflects only MN data. To provide context, in Table 13 below we provide the same data for 2014 to 2019.

TABLE 13 – COLD WEATHER RULE PROTECTION MN 2014 TO 2019

Year	January	February	March	April	October	November	December	Annual Totals
2014	5772	8107	10592	25836	15759	13089	11031	90,186
2015	11858	11197	18745	38109	19523	19042	13519	131,993
2016	12320	10637	13837	28316	17636	15632	12844	111,222
2017	13698	12299	16264	31121	21909	16831	13409	125,531
2018	11830	9835	13457	27241	17843	13485	9091	102,782
2019	6433	5264	10261	10261	20116	16274	12104	80,713
Totals	**61911**	**57339**	**83156**	**160884**	**112786**	**94353**	**71998**	**642,427**

C. Service Extension Response Times

- **Pursuant to Minn. R. 7826.1600, Subparts A and B, the Company must provide a report on service extension request response times, including, for each customer class and each calendar month;**
  - **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.**
  - **The number of customers requesting services 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.**

Table 14 below is the required information by Part A of the Rule and includes data on service installations that require construction.

Table 14 – Service Extension Installations

Residential													
	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	**Total 2019**
# Service Installations	191	163	162	216	356	333	436	382	408	497	451	351	**3946**
Avg days to complete from customer and site ready	10.3	11.3	6.4	26.6	9.5	6.7	6.4	5.7	10.0	7.1	6.2	3.4	**8.31**
Commercial													
	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	**Total 2019**
# Service Installations	9	4	9	8	11	18	15	19	32	15	28	19	**187**
Avg days to complete from customer and site ready	5.2	4.5	13.1	12.1	11.5	10.1	13.1	9.2	9.3	14.2	6.8	5.1	**9.39**

While the number of commercial installations in 2019 decreased compared to 2018, overall, our total number of service extension installations requiring construction in 2019 increased due to an increase in residential extensions. The average days for both residential and commercial service extensions increased in 2019 compared to 2018.

We note we are in the second year of reporting service extension response times with data from our new SAP work management system. We continue to adapt to the new processes to maximize workflow management. As we worked with the system this past year, we discovered areas in our end-to-end management of service extensions that require further refinements such as the handoffs and tracking between the groups that support this work. We are currently working through a phased approach training initiative across our Distribution organization to implement consistent processes for better accuracy of data collection for residential and commercial services, which will improve process performance and document accurate completion and closure of work orders.

For Part B of Rule 7826.1600, we note that 307,460 customers requested service at a location previously served by the Company in 2019. 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 Table 23.

D. Call Center Response Times

- **Pursuant to Minn. R. 7826.1700, the Company must provide "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."**

- **In the Commission's November 3, 2004 Order in Docket No. E002/M-04-511, at Order Point 6, the Commission required the Company to "include on a going forward basis, data regarding credit calls . . . in its calculation of call center response times."**

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 were our "business hours." Our performance includes call and service level information on a 24-hours-a-day, 7 days-a-week basis

Table 15 below provides a summary of our 2019 call center response time performance. Details on the various call types handled by our residential call center representatives, Business Solutions Center (BSC), Credit and Personal Account Representatives (PAR) and our Interactive Voice Response (IVR) system, along with performance information, can be found in **Attachment K.**

TABLE 15 – 2019 CALL CENTER RESPONSE TIME SUMMARY

Calls Included	2019 Performance	Reference to Att K
Residential, BSC, Credit, PAR, IVR handled outage calls	80.5% in 20 seconds or less	Line 27
Residential, BSC, Credit, PAR, all IVR handled calls	90.8% in 20 seconds or less	Line 26

As required by the Commission, we have included credit calls in our reported call center response time. We also provide as a comparison all service level calls offered to agents, which in addition to Residential, BSC, Credit and PAR, it includes all IVR handled calls.

In addition, Line 31 on Attachment K provides our average speed of answer (ASA) of line 27, and the rows below break out the ASA by call center.

- **In the Commission's November 2, 2017 Order in Docket No. E-002/M-17-553, the Commission approved "the Company's requested change to the call center non-emergency hours and the associated customer bill form and tariff changes, and require[d] the Company to submit two years annual compliance review in its annual service quality reports for 2018 and 2019."**

Effective January 1, 2018 we changed our hours of operation for non-emergency calls to Monday through Friday from 7:00 a.m. to 7:00 p.m. and Saturdays from 9:00 a.m. to 5:00 p.m. Call Center Representatives continue to be available to interact with customers calling regarding electric and natural gas outage and emergency calls 24/7. We have not encountered any technical or other issues.

The number of customer calls selecting an option to speak to an agent after-hours continued to decrease from 2018 to 2019.

Our digital strategy has been successful with more customers leveraging our non-phone self-service offers to transact business. Overall, incoming call volume was down 113,000 calls year over year, equating to a three percent decrease. The agent call volume was down 23,000 calls (two percent), while the calls handled by the automated system decreased by 86,000 calls (four percent). We saw an increase of 16.5 percent in customer Ebill enrollments and 9.1 percent in My Account enrollments from 2018 to 2019.

Overall, usage of our automated phone system was fairly flat, coming in 0.6 percentage points lower in 2019 vs. 2018. For those customers that are selecting to speak to an agent, the telephone response time was nearly identical year over year. Overall agent calls answered within 20 seconds was within 0.3 percentage points 2018 to 2019 (Attachment K, line 30).

We received no complaints/comment about the change in hours from our Minnesota customers in 2019. According to the above Commission order point, this compliance obligation was only for the annual service quality reports for 2018 and 2019. Accordingly, this is the last annual report where the Company plans to respond to this compliance obligation.

E. Emergency Medical Account

- **Pursuant to Minn. R. 7826.1800, the Company must provide "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."**

When customers contact us indicating they have medical / life sustaining equipment, they are referred to our Personal Accounts Department for follow-up. A medical form is sent to the customer to be filled out by their doctor (or physician's assistant or certain nurses), including a signature and returned to the Company within 10 days. When the signed form is received, the Personal Account Representative (PAR) will update the account with the emergency medical account flag and file the form within our system. Certification must be renewed annually. Thirty days prior to expiration, our billing system automatically sends a new application to the customer for completion by a doctor and return to the Company in order to continue the

certification. As of March 2020, the Company currently has 3,755 Minnesota households certified with the emergency medical account status.

Table 16 below provides the 2019 monthly counts of requests for emergency medical account status and the count of request denied. The reasons for denial of emergency medical account status include customers not returning the form to the Company and the doctor refusing to certify the customer needing medical/life support.

Table 16

	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Total 2019
	R	R	R	R	R	R	R	R	R	R	R	R	R
Requested	91	73	146	311	359	177	195	208	264	148	126	322	2,420
Denied	5	1	8	40	43	11	15	26	29	20	23	3	224

- **In the Commission's May 14, 2019 Order in Docket No. E002/M-18-239, at Order Point 5, the Commission required the Company to "engage in a dialogue with Commission Staff and stakeholders on emergency-medical-account-status protection as outlined in Minn. Stat. 216B.098, subdiv 5, and reported under Minn. R. 7826.1800" to examine the extent to which eligible Minnesotans are aware of this protection from disconnection.**

The Company collaborated with representatives of Minnesota Power, OtterTail Power and the Energy Cents Coalition in expanding our outreach efforts. Together, we are developing an outreach plan which will target hospital personnel who manage patient discharges and medical equipment vendors. These two groups are directly involved with the target group of customers and we believe they would be good points of contact to educate and provide resources to customers who would benefit from this program.

F. Customer Deposits

- **Pursuant to Minn. R. 7826.1900, the Company is required to report on "the number of customers who were required to make a deposit as a condition of receiving service."**

During 2019, we requested a total of 486 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.

G. Customer Complaints

- **Pursuant to Minn. R. 7826.2000, the Company is required to provide a Report on complaints by customer class and calendar month, including at least the following information:**
  - **The number of complaints received**
  - **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.**
  - **The number and percentage of complaints resolved upon initial inquiry, within ten days, and longer than ten days.**
  - **The number and percentage of all complaints resolved by taking any of the following actions:**
    - **Taking the action the customer requested;**
    - **Taking an action the customer and the utility agree is an acceptable compromise;**
    - **Providing the customer with information that demonstrates that the situation complained of is not reasonable within the control of the utility;**
    - **Refusing to take the action the customer requested**
  - **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 L** to this Annual Report, which includes complaints that are handled by the Call Center or the Company's Customer Advocate Group.

Pages 1-5 of Attachment L contain information on customer complaints handled by our customer advocates. Attachment L, page 5 provides the number of complaints forwarded to the Company by the Commission's Consumer Affairs Office (CAO) for further investigation. The grand total on page 5 is consistent with the figure also reported in our Quality of Service Plan (QSP) Tariff Annual Report in Docket E,G002/CI-02-2034.

Attachment L pages 7-17 contain information on complaints handled within the Call Centers. Effective with our 2017 Annual report, the "High Bill" category on pages 5 through 16 now includes complaint calls related to decoupling issues. More specific details regarding decoupling complaints can be found in our annual report filed on February 1, 2019 in Docket Nos. E002/GR-13-868 and E002/GR-15-826.

- **In the Commission's May 14, 2019 Order in Docket No. E-002/M-18-239, at Order Point 3, the Commission required the Company to "examine the definition of "customer complaint" and provide a short summary of their observations and conclusions in their electric service-quality reports due April 1, 2020."**

In so ordering, the Commission observed that "[c]ustomers submit complaints by a number of avenues beyond utility call centers—including e-mail, web contact forms, and other electronic means." The Commission requested this order point so it could "get a better sense of how utilities apply the definition of 'customer complaint' to these technologies."

Over the years, the Company has consistently demonstrated our commitment to quality and reliable service to our customers. As it relates to complaints received beyond our call centers, we are primarily focused on resolving customers' questions and concerns, rather than how those contacts should be tracked. Over time, we have expanded the channels in which we engage with our customers. In addition to the Call Center and PUC CAO, customers can use other channels to contact the Company with questions, complaints and comments. Below we briefly provide an overview of these channels:

- **Email:** Customers can use the "Contact Us" form on XcelEnery.com and can also send emails to customerservice@xcelenergy.com. The Company's Correspondence Team responds to customer emails and tracks the volume and type of emails received. Complaints are not included in the Call Center complaint data we currently include in our report.
- **Mobile App:** customers can contact us in a mobile application us via a link to a simpler version of our online "Contact Us" form. These inquiries are received and processed in the same way as our other customer emails noted above.
- **Social Media:** The Company's Correspondence Team also manages complaints received via various social media channels such as Facebook, Twitter and Instagram. Responses are managed through the Sprinklr platform

which tracks the volume and types of customer contacts. Complaints are not included the Call Center complaint data we currently include in our report.

The Company has other customer touchpoints across the enterprise where customers can also raise a complaint. These include groups like our Community Relations Managers, Account Managers and the Siting and Land Rights group. When a complaint occurs, the receiving group works with other internal areas to address the issue and to communicate back to the customer. These types of customer exchanges are not included in our service quality reporting.

- **In the Commission's May 14, 2019 Order in Docket No. E-002/M-18-239, at Order Point 4, the Commission required the Company to "further break down and explain the percentage of complaints they received that were not within the utilities' control (i.e., those related to energy-efficiency providers, solar installers, or other vendors/matters) and include a short summary in their electric service quality reports due April 1, 2020."**

The Company is required to break down and explain the percentage of complaints it receives that would be considered not within the utility's control. In 2019, our customer advocate group handled at least 55 complaints which requested an action not in our control (Attachment **L**, page 6, section D). Examples of items not in control of Xcel Energy include situations involving equipment operating as designed, equipment not owned by Xcel Energy, Cold Weather Rule and Tariffs being followed, disconnection notices sent, and customer's service disconnected in compliance with Commission Rules.

Attachment **L** provides complaints handled by our call centers and includes counts of complaints where the Company demonstrated that the situation referenced in a customer's complaint was not reasonably within the control of the utility. Almost all of the complaints categorized as "Demonstrate" came from our residential customers so we focus this summary on those complaints. In 2019, the residential complaints handled by our call center which were not within our control were primarily in three categories, below we provide some additional context based on complaint subcategories not included in Attachment **L**:

- **Inadequate Service:** These complaints comprised almost 40% of the Demonstrate category in 2019 and included issues around the cold weather program, payment agreements, past due notices, our personal account representatives (PAR) (who handle our low income programs, emergency medical status, and energy assistance) and service issues.

- **Billing Errors:** These complaints totaled almost 32% of the 2019 "Demonstrate" complaints and focus on billing items such as a bill explanation, budget billing and billing disputes.
- **Wrongful Disconnection:** In 2019, 20% of the "Demonstrate" complaints involved disconnections.

We also reviewed the call agents notes for the 2019 Demonstrate complaints for additional anecdotal context. Notable types of complaints beyond our control include situations involving landlord/tenants and/or property sales. Typically, in these situations, one (or both) parties fail to notify the Company of the name change to the account and the previous tenant/owner would continue to be billed until the situation is resolved. Other complaints involved customers reporting possible utility scams and requests for account information from an individual not listed on the account and thus not authorized to receive the information.

We do not track complaints related to vendors or solar installers, but when a call of this type is received, the Company will investigate the matter to determine the best outcome for the customer, and the extent to which we can or should be involved.

H. Planned Outage Communications

- **In Docket No. E-002/M-17-553, the Company requested Commission approval, among other things, to use express customer communication preferences in communicating planned outages to customers. The Commission approved the Company's request in an Order dated November 2, 2017. In our initial filing, we committed to provide a brief update in our electric and gas service quality report discussing our progress in implementing a new Planned Outage Communications system along with the following information:**
  - **Number of customers who opted-in to preferences;**
  - **Of those customers, how many prefer each type of communication;**
  - **The number of customers who change or cancel their preferences and stated reason, if known; and**
  - **The CSR will continue to include statistics on customer complaints.**

As of December 31, 2019, 1,730,064 Xcel Energy customers have opted-in to receive outage notifications – 721,129 to receive emails; 722,367 to receive Text/SMS

messages; and 286,568 to receive phone notification of the outage.[6] We currently do not track customers who change preferences, and we do not ask for a reason before allowing a customer to change their communication preferences. The number of customers that have opted-out of preferences (text/SMS and email) is 20,625.

Testing of the planned outage communications continues to be worked through with implementation of the back-end process to send out the notifications for planned outages. However, until the process has been completed, we will continue to use the letter to notify customers until there is higher confidence that the messages are being sent and received. A survey has been implemented in our outage notification email asking if the information is helpful. We will use this to refine messages to meet customer needs.

I. Customer Satisfaction

- **In the Commission's February 9, 2018 Order in Docket Nos. E002/M-16-281 and E002/M-17-249, at Order Point 3.E., the Commission required the Company to "provide the following information in its next annual service quality report: The Company's internal customer satisfaction goals and a comparison of the Company's actual performance to those goals, as well as an explanation of the basis for those customer satisfaction goals."**

- **In the Commission's May 14, 2019 Order in Docket No. E-002/M-18-239, the Commission required the Company to "provide refreshed information responsive to the Commission's February 9, 2018 order in future annual service-quality filings" essentially continuing this customer satisfaction reporting requirement.**

A. 2019 Customer Satisfactions Goals and Performance

In addition to JD Power satisfaction studies for the utility industry, which focus on broad overall (relationship) satisfaction for the average utility customer, we also measure customer satisfaction when customers directly interact with the Company. The transaction surveys that we use to assess our performance internally are for customer interactions with our customer service representatives, our IVR system, and our website. Table 17 summarizes our 2019 customer satisfaction goals and performance at the transaction type level. We note that all goals are for Xcel

[6] Customers can specify more than one communication channel preference. Therefore, these numbers may not be representative of unique customer counts. All numbers reflect totals for all Xcel Energy customers.

Energy (all states), and the transactional survey results are specific to NSPM residential and business customers (combined).

TABLE 17 CUSTOMER SATISFACTION GOALS AND NSPM PERFORMANCE – 2019

Customer Channel	Goal	Actual/Performance
Transaction – Phone Agent & IVR combined (overall satisfaction) (2019 weighting)	83.9%	83.1%
Transaction – Phone Agent (overall satisfaction)	85.2%	85.7%
Transaction – IVR (overall satisfaction)	82.6%	80.9%
Transaction – Phone Agent (1st call resolution)	87.0%	86.8%
Transaction – Web (overall satisfaction)	69.6%	64.9%

For phone and IVR transactions, customers are offered the opportunity to take the survey at the conclusion of their call/IVR use – or the option to get a follow-up call within 1 or 2 days after the transaction. For web transactions, customers are presented a pop-up window and offered the opportunity to participate in a survey. Customers are asked to provide feedback on the following scales:

- The *phone agent* metric represents the percentage of customers who score Xcel Energy 8, 9, or 10 (top 3 box) on a ten-point scale regarding their satisfaction with the phone call.
- The IVR metric represents the percentage of customers who score Xcel Energy a 4 or 5 (top 2 box) on a five-point scale regarding their satisfaction using our IVR system to complete their transaction.
- The Web metric represents the percentage of customers who score Xcel Energy an 8, 9, or 10 (top 3 box) on a ten-point scale regarding their satisfaction with our website. Customers complete a web pop-up survey after visiting Xcel Energy's website.

In 2019, the goal for the Agent channel was based on achieving a directional improvement, that is approximately half the increase of what would be necessary to achieve statistical significance (0.05 level), and the IVR channel was based on remaining flat in satisfaction from the prior year. This goal was established for the Agent and IVR channels separately and combined, which took a blend of the IVR and Agent satisfaction scores using the same directional increase methodology relative to survey volume (2018 survey volume – IVR was weighted 47 percent and Agent was weighted 53 percent in the combined goal/score). We set our 2019 web goal to remain flat in overall satisfaction from 2018 year-end results.

B. J.D. Power Survey

J.D. Power independently measures relationship satisfaction and performs ongoing benchmarking studies that assess how utilities have performed in relation to one another. J.D. Power implements both a residential and business electric satisfaction study, measuring satisfaction with both customer segments across six categories or drivers of satisfaction – power quality and reliability, billing & payment, communications, corporate citizenship, customer service, and price. We subscribe to the J.D. Power survey because it provides a broad understanding of our customers and can combine it with other customer data, such as our transactional surveys, to develop action plans to improve satisfaction.

For several years, the Company has subscribed with J.D. Power to access the utility benchmarking results to help various internal work groups identify and prioritize on strategic areas of focus. This information was not used to set customer metrics or goals in 2019. Starting in 2018, we used the J.D. Power residential study to set and measure metrics for (1) overall residential satisfaction; (2) satisfaction with total monthly cost of electric bill; (3) keeping customers informed about an outage; and (4) percentage of customers recalling Company communications over past three months. This practice continued into 2019.

Table 18 details residential customer satisfaction overall, as well as by category/driver for NSPM in 2019. The percentile rank is NSPM's position within approximately 60 utilities in the J.D. Power study that the Company chooses to benchmarks itself against. As an example, a peer rank of 54 percentile would mean that NSPM has a higher score than 54 percent of the peer set.

Table 18: J.D. Power Residential Electric Satisfaction for NSP in 2019

[PROTECTED DATA BEGINS…

2019 Residential	Index Score	Peer Percentile Rank
Overall Customer Satisfaction Index		
Power Quality & Reliability		
Price		
Billing & Payment		
Corporate Citizenship		
Communications		
Customer Service		

…PROTECTED DATA ENDS]

Table 19 details small/medium business customer satisfaction from the 2019 J.D. Power business study. The table is a combination of NSPM and NSPW customer feedback; however, the scores are predominantly based on NSPM customers.

Table 19: J.D. Power Small/Medium Business Electric Satisfaction for NSPM in 2019

[PROTECTED DATA BEGINS…

2019 Small/Medium Business	Index Score	Peer Percentile Rank
Overall Customer Satisfaction Index		
Power Quality & Reliability		
Price		
Billing & Payment		
Corporate Citizenship		
Communications		
Customer Service		

…PROTECTED DATA ENDS]

Tables 18 and 19 are marked NON-PUBLIC as defined by Minn. Stat. § 13.37, subd. 1(b). The information contained in these Tables is from a subscription with JD Power. Because this information derives independent economic value from not being generally known to, and not being readily ascertainable by proper means by other persons who can obtain economic value from its disclosure or use, Xcel Energy maintains this information as a trade secret pursuant to Minn. Rule 7829.0500, subp 3.

V. PROPOSED ELECTRIC RELIABILITY STANDARDS FOR 2020

A. Possible Transition Away from Standards Based on Five Year Rolling Average by Work Center

- **In the Commission's January 29, 2020 Order in Docket No. E002/M-19-261, at Order Point 4, the Commission required the Company to discuss transitioning from a five year rolling average method of proposing SAIDI, SAIFI, and CAIDI standards to standards that are similar to the second quartile rank of similarly sized investor-owned**

utilities under either the IEEE benchmarking study or using United States Energy Information (EIA) reliability data, and may propose and discuss other alternatives.

Under Minnesota Rule 7826.0600, each utility shall file proposed—and the Commission shall ultimately set—"reliability performance standards in the form of proposed numerical values for the SAIDI, SAIFI, and CAIDI for each of its work centers." Xcel Energy has four work centers in Minnesota—Metro East, Metro West, Southeast and Northwest.

As described in more detail below, Xcel Energy supports a transition to the nationally recognized IEEE Distribution Reliability Working Group (DRWG) survey for the large utility group as the benchmark for 2nd quartile performance for purposes of setting standards for SAIDI, SAIFI and CAIDI. While we believe the IEEE benchmarking data provides a more meaningful comparison at the State of Minnesota level (as opposed to the work center level), we will still report SAIDI, SAIFI, and CAIDI by work center. The IEEE benchmark results are independently calculated. There is consistency in the reliability calculation. The annual results are publicly available.

One thing that the Commission needs to be aware of as we transition to using either the IEEE benchmarking or EIA data is that the benchmarking data for the previous year is not available until third quarter of the following year (so 2019 benchmarking data will not be available until third quarter 2020). This creates two related timing issues that parties will need to work together to decide how to handle. The first potential timing issue is how the Commission should set the standards for the coming year in light of the fact benchmarking data will not be available until third quarter of the year following the reporting year. As the Commission will see below, there is not a dramatic volatility in the IEEE benchmarking data year over year. It is the Company's understanding that the Commission wanted to explore transitioning to the IEEE or EIA benchmarking data because of concerns about the current five-year average methodology. While the Commission wished to move away from the five-year average, it may be the best way to set a standard based on IEEE benchmark data. The other methods the Company identified have unavoidable issues: if the standard was set based on last year's benchmarked data, it doesn't adequately account for the weather experienced in a given year; if there was some sort of true-up to the standard, the Company could then be operating in a circumstance where we wouldn't know the standard we are required to achieve until the reporting year has passed. The second potential timing issue is that we will be providing our actual performance data in our annual electric service quality filing on April 1 of each year, but how the Company's performance compares to the benchmarking data for the same year will

not be known until third quarter. To resolve this timing issue, the Company could make a supplemental filing in its electric service quality filing within 20 days of receiving the benchmarking data from IEEE providing both (1) the IEEE benchmarking data and (2) the reasons the work center did not meet the IEEE benchmark data in the in circumstances where it failed to do so. A third quarter supplement from the Company (necessitating either a delay in Department comments, or supplemental Department comments) has the potential to delay the Commission's processing of electric service quality filings. Ultimately the IEEE benchmarking data provides a solid data set for the Commission to understand how the Company's reliability performance in Minnesota compares to reliability for other large utilities. Since a work center is comprised of only a portion of our Minnesota service territory, however, there may be years when weather volatility dramatically impacts how that work center compares to the benchmark. Just as we do in electric service quality filings to date, in circumstances where our performance did not meet the standard, we will explain the leading causes for missing the standard. The Company is interested in working with the Commission and the Department to resolve the above timing issues to move towards using the IEEE benchmarking data to set standards.

Background

The Company and the Commission has historically used a five-year average to set the work center reliability standards under Minn. R. 7826.0600. After the Commission's deliberation on the utility's 2018 electric service quality reports, the Commission requested utility feedback on using something other than a five-year average, for example, standards that are similar to the second quartile rank of similarly sized investor-owned utilities under the IEEE Distribution Reliability Working Group (DRWG) reliability survey or the Department of Energy, Energy Information Administration Form EIA- 861 reporting.

The purpose of establishing performance targets is to focus attention on providing quality electric service to customers within an acceptable level of service interruptions. Providing reliable electric service to customers is a core value of Xcel Energy and service performance across the operating regions is regularly monitored and compared to performance targets and industry benchmarks. While Xcel Energy has been successful in improving overall performance in Minnesota, experiencing improving trends in both SAIDI and SAIFI over the last ten years, not all work centers, particularly the Southeast work center, have experienced this sustained improvement.

A comparison of the Company's performance to second quartile performance of a selection of industry peers provides an estimate of how the Company's performance

compares to industry average. Comparisons are not perfect because each utility—and indeed each work center for the Company--is unique in its infrastructure, system layout, operating structure, weather patterns, etc. While recognizing significant differences exist in performance capabilities of various utilities a better than average (2nd quartile or better) reliability performance of a utility compared to its peers suggests that the utility is attentive to providing quality service performance to its customers. Note that large scale weather patterns and other effects can drive random year to year fluctuations in quartile thresholds of groups of utilities although the fluctuation is much smaller than for individual utility experience.

Utility industry sources of performance information for comparison such as IEEE and EIA are based on utility level performance of participating utilities. Comparison of Xcel Energy performance with respect to these sources is generally performed at the utility operating company level (for example, NSPM). Individual work centers within an operating company can have significantly higher performance variability than the utility as whole as well as significant differences in performance capability from one another. This is due to variation in characteristics such as infrastructure, system layout, operating conditions, as well as the weather experienced in a particular work center. For example, performance of an area with high customer density per circuit mile and a significant amount of underground infrastructure (e.g., our Metro work centers) will tend to have quite different performance results than an area with lower customer density and a high proportion of overhead infrastructure (e.g., our Northwest and Southeast work centers).

IEEE Benchmarking

Xcel Energy has supported participation in the IEEE Distribution Reliability working Group since about 2000. During that time participants have actively contributed to the development of standards for the measurement and use of customer interruption data in activities for the analysis and improvement of electric system reliability performance. The IEEE Distribution Reliability Working Group administers an annual reliability benchmarking survey. Participating utilities submit a file with daily summary performance data. The survey administrator then calculates statistics for each utility using a consistent method. Participation is anonymous and there may be year to year variation in the participation pool. After independently calculating the results, the benchmark reports are made available on a publicly assessable website and are typically posted by September following the performance year. The new IEEE DRWG website where benchmarking and other information will be posted is located here (https://cmte.ieee.org/pes-drwg/). Benchmarking content has not been added to the new site as of this writing but should be coming soon. Currently benchmarking reports for data years prior to 2017 are posted here. (http://grouper.ieee.org/groups/td/dist/sd/doc/)

The IEEE DRWG benchmarking survey classifies utility respondents as Small, Medium or Large. There are typically around 90 participants in the annual survey. (There were 32 participants in the large utility group for the 2018 data year.)

A comparison of NSPM performance in Minnesota to the IEEE benchmark second quartile for the large (1,000,000 or more customers) utility group threshold shows good relative performance for SAIDI, SAIFI and CAIDI. A performance comparison for 2014-2018 is shown below. (Note: Performance values (IEEE & EIA) for previous year performance are generally not made available by the reporting groups until about the 3rd quarter of the following year.)

SAIDI	2014	2015	2016	2017	2018	2019
Minnesota	84	90	90	75	95	
Metro East	80	94	96	76	104	
Metro West	83	91	84	70	83	
Northwest	83	76	86	76	103	
Southeast	103	87	110	96	113	
IEEE 2nd Qtl	109	101	110	113	112	n/a

SAIFI	2014	2015	2016	2017	2018	2019
Minnesota	0.84	0.83	0.83	0.74	0.83	
Metro East	0.86	0.90	0.87	0.76	0.93	
Metro West	0.84	0.84	0.82	0.71	0.87	
Northwest	0.82	0.66	0.70	0.76	0.87	
Southeast	0.80	0.75	0.85	0.84	0.97	
IEEE 2nd Qtl	0.96	0.98	1.00	0.96	1.04	n/a

CAIDI	2014	2015	2016	2017	2018	2019
Minnesota	100	108	109	101	107	
Metro East	92	104	110	100	112	
Metro West	99	108	101	98	95	
Northwest	101	115	122	100	125	
Southeast	129	115	130	115	130	
IEEE 2nd Qtl	110	111	111	111	114	n/a

IEEE values are from the Large Utilities Benchmark Group (>1M Cust)

Note: IEEE results not available until about third quarter

The utility industry has shown improvement in SAIDI and SAIFI based on IEEE survey reporting over the past 14 years. While SAIDI and SAIFI have declined, CAIDI has not. This is because CAIDI is not a representative measure of the average experience per customer served as are SAIDI and SAIFI. SAIDI and SAIFI measure average total interruption duration and number of interruptions per customer served during the reporting period. The CAIDI metric is frequently misunderstood. It is an average metric for interruption events to customers who have experienced an interruption and is sensitive to the mix and types of interruptions experienced in a given year. For example, if reliability performance was nearly perfect in a year with only one customer experiencing an interruption and that interruption duration was 120 minutes the value of CAIDI for that year would be 120. Another year could have many customers impacted by a mix of shorter and longer events than 120 minutes resulting in a CAIDI of 90. You would not conclude that the first year had worse performance. Factors that affect the frequency distribution of different length of events can vary considerably from year to year. CAIDI can increase while SAIDI and SAIFI decrease not because an aspect of customer service has declined but because a significant number of what would have been shorter than average interruptions have been prevented and are no longer part of the average calculation. An example is the application of FLISR automated circuit switching technology being implemented by many utilities which reduces the number of customers experiencing sustained interruptions due to mainline feeder faults. Mainline feeder interruption durations tend to be shorter than the remaining tap level durations and while SAIDI and SAIFI are reduced there is upward pressure on CAIDI because of the change in weighted average of types of customer interruptions.

The Company will continue to submit data on CAIDI, however CAIDI at the work center level (or IEEE benchmarking level) is not a true indicator of customer experience or improvement of system performance.

EIA Benchmarking

The EIA requires annual reporting from electric utilities which includes self-reported reliability performance. Annual reporting is submitted on EIA Form 861. Utilities are requested to submit reliability index values calculated consistent with the method specified in IEEE Std. 1366-2012. There is no quality control on information submitted and no assurance the process specified by the IEEE standard has been followed. Not all utilities comply with the reporting requirements and significant deficiencies have been seen in the reporting for some utilities. In these ways the EIA information is less robust to the information the Company obtains from the IEEE workgroup.

Form 861 records utility performance by state. The EIA makes the reports available on a publicly assessable website. (https://www.eia.gov/electricity/data/eia861/) Reports are available by the October following the performance year. However, the reports do not provide quartile information as the information for IEEE. Therefore, in order to make such a comparison, the Company needs to go through the time-consuming task to select comparable utilities, enter their data, and calculate the numbers for each quartile. In the introduction above, the Company suggested it could make a supplemental filing 20 days after receiving the IEEE data with information about the benchmark data. Information from the EIA is available in October, one month after the IEEE data, and because it requires the Company to perform additional analysis to calculate the quartiles, to the extent the Commission wanted to use this EIA data, the Company would need much longer than 20 days to provide the Commission any information about the EIA data.

A comparison of NSPM performance to a second quartile threshold based on a selection of utilities reporting to the Energy Information Administration (EIA) of the US Department of Energy also shows good relative performance at the operating company level for NSPM. A group of utilities each serving 500,000 or more customers and that may be considered peers of Xcel Energy were selected along with Xcel Energy as a 26-member study group for performance comparison. A SAIDI performance comparison for the last five reporting years of this group is shown below. Because of the time required to make this calculation as well as the Company's concerns with the robustness of the data, it did not calculate 2nd quartile data for SAIFI and CAIDI.

Year	2014	2015	2016	2017	2018	2019
SAIDI Xcel MN	84	90	90	75	96	
Metro East	80	94	96	76	104	
Metro West	83	91	84	70	83	
Northwest	83	76	86	76	109	
Southeast	103	87	110	96	119	
SAIDI EIA 2nd Qtl*	**103**	**99**	**104**	**99**	**100**	n/a
*26 Utilities with >= 500,000 Customers						

Continuous Improvement

There is an internal expectation to maintain or improve performance over time. Significant natural year to year performance variability makes it difficult to assess performance based on a simple year to year reliability index comparison. A moving average of past index values provides a more stable estimate of the level of performance and its change over time. A five-year rolling average helps smooth out the variation and provides an estimate of the performance capability of the system.

For example, the IEEE 1366 methodology uses a rolling five-year history in the calculation of a major event day threshold for the current performance year.

If there is a regulatory expectation for continuing improvement in performance beyond meeting the 2nd quartile benchmark, Xcel Energy proposes that performance targets continue to be set with respect to a 5-year moving average while giving a suitable allowance margin to accommodate natural year to year variation. Even with five-year averaging, performance can be worse than target in any given year due to natural random variation. Performance target values need to accommodate random fluctuations in the moving average. The utility may be requested to explain the exceedance in any given year. Xcel Energy recommends that a performance threshold only be changed based on a sustained improvement in the moving average threshold. Perhaps several consecutive years of moving average results better than proposed target should be required before the target is modified.

Xcel Energy will continue to make efforts to meet or exceed the targets as a business priority for customer service.

B. Recommendation for 2020 Standards

- **Minn. R. 7826.0600, Subpart 1 requires the Company to propose 2020 standards for SAIFI, SAIDI, and CAIDI.**

Minn. R. 7826.0600, subp. 1, requires the Company to propose 2020 standards for SAIFI, SAIDI, and CAIDI. As the Commission is aware, these standards have traditionally been based on a rolling five-year historical average for each metric by work center. The Commission's January 28, 2020 Order in E-002/M-19-261 also requested at Order Point 4 that each utility "discuss transitioning from a five year rolling average method of proposing SAIDI, SAIFI, and CAIDI standards, to standards that are similar to the second quartile rank of similarly sized investor-owned utilities under either the IEEE benchmarking study or using United States Energy Information Administration (EIA) reliability data."

As described in the section above, the Company supports a transition to the nationally recognized IEEE Distribution Reliability Working Group survey for the large utility group as the benchmark for second quartile reliability performance for purposes for setting standards for SAIDI, SAIFI, and CAIDI. That said, its important to note that the IEEE benchmarking data for the previous year is not available until third quarter of the following year (so 2019 benchmarking data will not be available until third quarter 2020). This creates two timing-related issues that interested stakeholders will need to work together to decide how to handle. First,

how should the Commission set standards for the coming year in light of the fact benchmarking data will not be available until third quarter of the year following the reporting year. Second, how should the Commission compare actual performance to the benchmarked data when the benchmarking data for the same time period will not be known until several months after the Company's annual service quality report is due.

Based on the historical method of setting standards and the Commission's request to consider a transition to new standards, the Company proposes two alternative standards for the Commission's consideration. We respectfully request that the Commission select one of the two options, as opposed to setting two sets of standards for 2020.

Option 1: Standards Set on Historical Method

Option 1 sets standards for 2020 using the 2.5 beta method outlined in IEEE 1366-2012.

These standards for SAIDI and SAIFI are the average of the five years of historical data. 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.

Option 1: Proposed 2020 Reliability Standards*

		Proposed Standard
Metro East	SAIDI	89.95
	SAIFI	0.84
	CAIDI	106.91
Metro West	SAIDI	79.37
	SAIFI	0.79
	CAIDI	100.55
Northwest	SAIDI	87.11
	SAIFI	0.75

	CAIDI	115.72
Southeast	SAIDI	94.82
	SAIFI	0.76
	CAIDI	122.04

*****Standards calculated with data using IEEE method for normalization and not comparable to standards set previous to those set in Docket No. E002/M-19-261. The standards for the Southeast region are consistent with the 2019 standards approved in Docket No. E002/M-19-261 with SAIDI & SAIFI locked at the 2017 level and CAIDI locked at 2018 level.

Option 2: Standards Set based on IEEE Benchmarking Data

In our write up to the Commission's January 28, 2020 Order Point 4, we suggest that due to the timing of IEEE benchmarking data outlined above, the standards could be set based on a five-year average of IEEE benchmarking data. IEEE benchmarking data is standardized in a method consistent with IEEE workgroup guidelines.

Based on this methodology, the standards for each work center would be:

Option 2: Proposed 2020 Reliability Standards*

		Proposed Standard
All Work Centers	SAIDI	109
	SAIFI	0.99
	CAIDI	111

VI. 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.

Event - Number	Event Date	Claim Date	Event Cause Code	Event Cause Description	Paid Sum	Bodily Injury
					Protected Data Begins	
EV2015126315[1]	8/2/2015	8/12/2015	1108	Contact with Electrical		
EV2015126942[2]	10/28/2015	10/29/2015	1129	Transformer Under Ground		
EV2016128553[3]	8/5/2016	8/18/2016	1106	Conductors - Overhead		
						Protected Data Ends
EV2016133010	7/7/2016	10/23/2018	1130	Tree Trimming		
					Protected data begins	
EV2017130104[4]	3/1/2017	5/8/2017	1101	Abnormal Voltage		
					Protected Data Ends	
EV2018131816	3/19/2018	5/24/2018	1134	Work Performed Electrical	$5,700.00	$0.00
EV2018131816	3/19/2018	5/24/2018	1134	Work Performed Electrical	$10,000.00	$0.00
EV2018132182	5/17/2018	1/7/2019	1101	Abnormal Voltage	$2,342.62	$0.00
EV2018132182	5/17/2018	1/23/2019	1101	Abnormal Voltage	$8,713.90	$0.00
EV2018132255	5/8/2018	6/14/2018	1136	Outage	$958.00	$0.00
EV2018132492	6/5/2018	11/27/2018	1128	Transformer Overhead	$689.12	$0.00
EV2018132524	7/5/2018	7/24/2018	1128	Transformer Overhead	$1,959.86	$0.00
EV2018132894	9/4/2018	9/27/2018	1136	Outage	$7,000.00	$0.00
EV2018132965	9/20/2018	10/19/2018	1106	Conductors - Overhead	$420.40	$0.00
EV2018132965	9/20/2018	11/12/2018	1106	Conductors - Overhead	$120.48	$0.00
EV2018132988	9/20/2018	10/19/2018	1130	Tree Trimming	$638.25	$0.00
EV2018132991	8/1/2018	1/24/2019	1136	Outage	$1,275.63	$0.00
EV2018133007	9/17/2018	10/23/2018	1134	Work Performed Electrical	$216.00	$0.00
EV2018133046	9/24/2018	10/29/2018	1134	Work Performed Electrical	$1,768.80	$0.00
EV2018133070	10/3/2018	11/7/2018	1136	Outage	$463.13	$0.00
EV2018133077	9/15/2018	11/8/2018	1130	Tree Trimming	$1,428.64	$0.00
EV2018133086	10/19/2018	11/12/2018	1101	Abnormal Voltage	$130.00	$0.00
EV2018133197	7/31/2018	12/4/2018	1136	Outage	$334.60	$0.00
EV2018133427	12/31/2018	1/24/2019	1136	Outage	$535.00	$0.00
EV2018133436	12/1/2018	1/31/2019	1136	Outage	$136.06	$0.00
EV2018133825	11/15/2018	4/24/2019	1134	Work Performed Electrical	$2,837.95	$0.00
EV2018134087	9/20/2018	6/10/2019	1133	Weather- Damage from	$505.00	$0.00
EV2018134297	7/12/2018	7/11/2019	1136	Outage	$9,061.50	$0.00
EV2018134297	7/12/2018	7/11/2019	1136	Outage	$3,600.00	$0.00
EV2018134673	11/1/2018	11/1/2018	1122	Poles & Towers	$7,594.30	$0.00
EV2019133572	1/16/2019	7/30/2019	1101	Abnormal Voltage	$300.00	$0.00
EV2019133697	3/2/2019	3/27/2019	1136	Outage	$250.00	$0.00
EV2019133756	3/12/2019	4/12/2019	1136	Outage	$1,398.01	$0.00
EV2019133756	3/12/2019	4/12/2019	1136	Outage	$684.08	$0.00
EV2019133774	3/25/2019	4/12/2019	1128	Transformer Overhead	$3,178.07	$0.00
EV2019133777	3/24/2019	4/15/2019	1136	Outage	$70.00	$0.00
EV2019133880	3/14/2019	5/2/2019	1134	Work Performed Electrical	$250.00	$0.00
EV2019133902	2/1/2019	5/3/2019	1130	Tree Trimming	$3,253.35	$0.00

EV2019133949	4/17/2019	5/9/2019	1136	Outage	$130.00	$0.00
EV2019133951	4/19/2019	5/9/2019	1136	Outage	$36.23	$0.00
EV2019133952	4/25/2019	5/9/2019	1128	Transformer Overhead	$706.52	$0.00
EV2019133952	4/25/2019	5/9/2019	1128	Transformer Overhead	$73.27	$0.00
EV2019133952	4/25/2019	5/15/2019	1128	Transformer Overhead	$754.27	$0.00
EV2019133952	4/25/2019	5/23/2019	1128	Transformer Overhead	$2,967.95	$0.00
EV2019133952	4/25/2019	5/31/2019	1128	Transformer Overhead	$2,058.06	$0.00
EV2019133952	4/25/2019	6/4/2019	1128	Transformer Overhead	$1,129.16	$0.00
EV2019133952	4/25/2019	6/17/2019	1128	Transformer Overhead	$1,710.46	$0.00
EV2019133952	4/25/2019	6/27/2019	1128	Transformer Overhead	$953.28	$0.00
EV2019133952	4/25/2019	7/30/2019	1128	Transformer Overhead	$1,850.86	$0.00
EV2019133954	3/20/2019	5/9/2019	1136	Outage	$219.61	$0.00
EV2019134049	4/11/2019	6/1/2019	1134	Work Performed Electrical	$270.84	$0.00
EV2019134070	5/4/2019	6/5/2019	1128	Transformer Overhead	$8,795.57	$0.00
EV2019134070	5/4/2019	6/5/2019	1128	Transformer Overhead	$114.17	$0.00
EV2019134193	2/28/2019	6/27/2019	1136	Outage	$150.00	$0.00
EV2019134247	4/13/2019	7/5/2019	1134	Work Performed Electrical	$993.67	$0.00
EV2019134258	6/7/2019	7/8/2019	1136	Outage	$85.00	$0.00
EV2019134289	1/8/2019	7/15/2019	1130	Tree Trimming	$5,562.00	$0.00
EV2019134319	7/16/2019	7/16/2019	1131	Vegetation	$50.00	$0.00
EV2019134329	6/24/2019	7/16/2019	1134	Work Performed Electrical	$173.14	$0.00
EV2019134375	7/31/2019	7/31/2019	1122	Poles & Towers	$475.00	$0.00
EV2019134383	7/15/2019	8/5/2019	1136	Outage	$106.76	$0.00
EV2019134385	7/8/2019	8/5/2019	1134	Work Performed Electrical	$123.45	$0.00
EV2019134386	7/13/2019	8/5/2019	1136	Outage	$587.75	$0.00
EV2019134386	7/13/2019	8/5/2019	1136	Outage	$3,141.51	$0.00
EV2019134444	7/9/2019	8/13/2019	1136	Outage	$189.00	$0.00
EV2019134445	7/12/2019	8/13/2019	1136	Outage	$149.00	$0.00
EV2019134585	6/13/2019	9/9/2019	1122	Poles & Towers	$6,337.00	$0.00
EV2019134607	8/1/2019	9/13/2019	1128	Transformer Overhead	$250.00	$0.00
EV2019134678	9/9/2019	9/26/2019	1107	Conductors - Underground	$180.00	$0.00
EV2019134743	8/1/2019	10/3/2019	1110	Equipment Failure	$1,060.75	$0.00
EV2019134793	9/17/2019	10/16/2019	1101	Abnormal Voltage	$161.40	$0.00
EV2019134793	9/17/2019	11/6/2019	1101	Abnormal Voltage	$2,835.74	$0.00
EV2019134801	9/3/2019	9/3/2019	1134	Work Performed Electrical	$72.49	$0.00
EV2019134849	9/28/2019	10/25/2019	1136	Outage	$824.80	$0.00
EV2019134899	10/17/2019	11/4/2019	1136	Outage	$75.00	$0.00
EV2019134927	9/25/2019	11/11/2019	1122	Poles & Towers	$107.52	$0.00
EV2019134943	8/29/2019	11/13/2019	1110	Equipment Failure	$865.33	$0.00
EV2019134951	9/3/2019	11/14/2019	1130	Tree Trimming	$206.80	$0.00
EV2019134973	5/23/2019	11/18/2019	1134	Work Performed Electrical	$6,500.00	$0.00
EV2019134989	11/13/2019	11/19/2019	1136	Outage	$205.21	$0.00
EV2019135097	11/14/2019	12/16/2019	1134	Work Performed Electrical	$1,628.98	$0.00

[1]On August 2, 2015, a minor was with several friends late at night when he decided to climb a tree in St. Paul. While climbing, the minor contacted an overhead powerline owned by NSPM. The minor suffered electrical contact injuries and fell to the ground. The minor sued the City of St. Paul, NSPM, and NSPM's tree trimming contractor Wright Tree Service. The City of St. Paul Liability for this accident was disputed by all parties, who ultimately agreed to a confidential settlement during mediation, which resolved the case against all parties.

[2]On October 28, 2015, an equipment operator was working on a demolition project in Brooklyn Park, MN. He claimed that a electric transformer cabinet nearby, owned by NSPM, was unlocked and that the door was banging open in the wind. He attempted to shut the door and, in doing so, claimed he was blown back from the transformer by an arc flash. He sued NSPM. Liability was disputed, and the parties reached a confidential settlement agreement at mediation.

[3]On August 5, 2016, a Telecommunications worker was performing work on an overhead utility pole owned by NSPM, which in addition to holding NSPM electrical utilities also held telecommunication lines. During the course of his work, the Telecommunications employee received electrical contact injuries. The cause of his accident was disputed, and the parties agreed to a confidential settlement of the claims during mediation.

[4]Beginning in March 2014, and continuing in March 2015 and February 2017, a Minneapolis homeowner was repeatedly notified by the City of Minneapolis that the plumbing supply line to the residential property was leaking and needed to be repaired. The homeowner commenced litigation against NSPM on January 25, 2019, alleging that the leaking was caused by stray voltage from NSPM's nearby power line. NSPM disputed liability. The parties ultimately agreed to a confidential settlement during mediation.

DELIVERING CLEAN, SAFE, RELIABLE ELECTRICITY

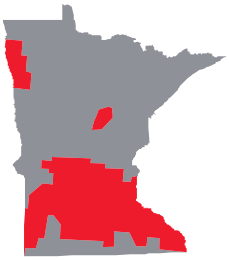
INFORMATION SHEET
MINNESOTA

MINNESOTA SERVICE QUALITY AND RELIABILITY

Xcel Energy®

ABOUT XCEL ENERGY MINNESOTA

At Xcel Energy, we provide our customers with safe, clean, reliable electricity at a competitive price.



1.3 million
electric customers served in
370 CITIES AND TOWNS across Minnesota

ENHANCING THE CUSTOMER EXPERIENCE

Each and every time our customers engage with us, we want to make it easy for them and deliver a positive, best-in-class experience.

1.5 million
Customer phone calls answered in 2019

80.5%
of calls answered within **20 SECONDS**

3,946
New residential electric service installations completed in 2019

8.31 days
Average time to complete a new residential service installation

OUR COMMITMENT TO RELIABILITY

Each year, we report on various measurements of electric service reliability. Each measurement typically has two numbers: one number includes all outages during the year, including outages caused by major events like high-impact storms, and the other number excludes outages caused by major events.

Here are some highlights.

99.985%
Percentage of time Minnesota customers had power in 2019*

81 minutes
Average total time a customer was without power in 2019**

*Also known as Average Service Availability Index, or ASAI. Excludes major event days, which include high-impact storms.
**Also known as System Average Interruption Duration Index, or SAIDI. Excludes major event days, which include high-impact storms.
All figures represent 2019 averages for all Minnesota customers, unless otherwise noted.

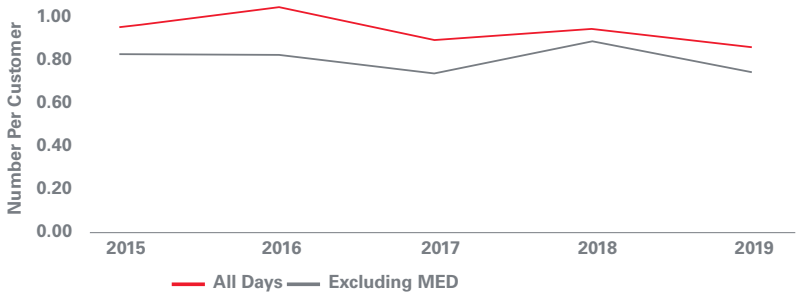
INFORMATION SHEET

DELIVERING CLEAN, SAFE, RELIABLE ELECTRICITY

MINNESOTA

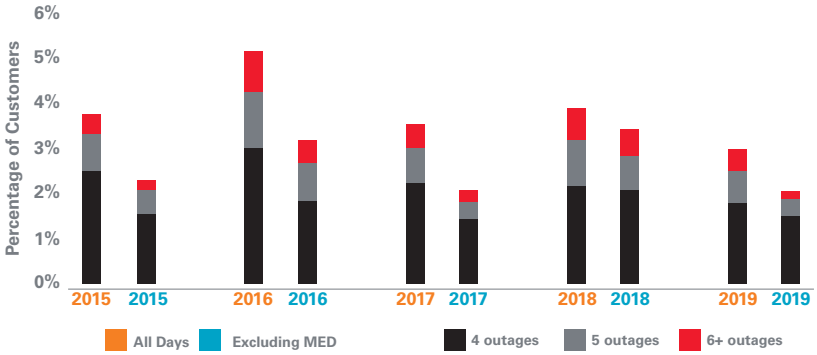
<1

Average number of outages a customer experienced in 2019†



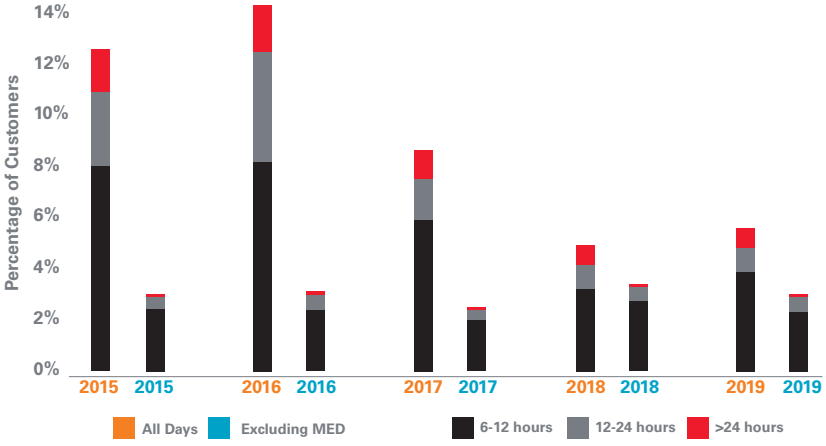
~2%

Percentage of customers with more than three power outages in 2019††



~3%

Percentage of customers with a power outage lasting longer than six hours in 2019§



MED = major event days, which include high-impact storms

† Also known as System Average Interruption Frequency Index, or SAIFI.

†† Also known as Customers Experiencing Multiple Interruptions, or CEMI. ~2% excludes major event days.

§ Also known as Customers Experiencing Lengthy Interruptions, or CELI. ~3% excludes major event days.

Xcel Energy®

Xcel Energy's Southeast Work Center:

Report on Staffing and Reliability

Prepared in Response to Order Point 5d in the Order Accepting Reports, Establishing Reliability Standards, and Requiring Additional Filings

Docket No. E-002/M-19-261 (January 28, 2020).

February 27, 2020

Dockets No. E-002/M-19-261; E-002/M-20-___

I. EXECUTIVE SUMMARY

Each year Northern States Power Company, a Minnesota corporation (the Company), files an Annual Report and Petition on Service Quality Performance and Proposed Reliability Measures (Annual Service Quality Report). In the Company's 2018 Annual Service Quality Report, Docket No. E-002/M-19-261, the Minnesota Public Utilities Commission (Commission) raised several concerns related to the staffing levels and reliability performance within the Company's Southeast Work Center. In its January 28, 2020 Order in the above referenced docket, the Commission required the Company to provide a report of various issues related to staffing and reliability in the Southeast Work Center by February 27, 2020.

The Southeast Work Center is essentially our southern Minnesota service territory, spanning from nearly the border with South Dakota on the west to the border with Wisconsin on the east. The work center is quite rural and interspersed with various small municipalities. The large geographic area makes the Southeast Work Center unique as compared to our three other work centers. Its rural nature also means that a greater percentage of feeders are overhead, as opposed to underground (overhead feeder outage frequency is higher than underground). Taken together, these issues complicate both staffing and reliability in the work center.

Field and maintenance employee staffing in the Southeast Work Center declined from 2010 to 2018. The decline in staffing is primarily related to efficiencies realized in the equipment our field and maintenance personnel use, as well as attrition for the district representative position. Six new employees will be dispersed across the wide geographic area of the Southeast Work Center based on historical trends of requests for new service and maintenance needs.

After an evaluation of the outages from 2010 to present time in the Southeast Work Center, the Company determined that three causes—Overhead Equipment, Power Supply, and Vegetation caused the largest number of sustained customer outages. When the Company considered the customer minutes each type of outage caused, it became clear that Vegetation and Overhead Equipment were the two primary causes of customer outage minutes. With regard to vegetation, the Southeast Work Center has gotten off-cycle on vegetation management; meaning, not every line mile planned to be trimmed was in fact trimmed. The Company has plans to correct this in 2020. In addition, we provide an update on the porcelain fused cutouts pilot discussed at the

Commission meeting on December 19, 2019 and describe some other reliability projects that the Company has or will complete by the end of 2020.

This report demonstrates that the Company is making progress in hiring additional field and maintenance personnel in the Southeast Work Center. While the Company is undertaking efforts to improve reliability, such as getting back on cycle for vegetation management and performing other reliability related projects, we do not believe there is a "quick fix" to the reliability issues in the Southeast Work Center. There are a variety of factors and system components which can impact reliability which we will continue to investigate for specific areas of remediation. The Company therefore proposes to provide the Commission quarterly updates on the reliability metrics in the Southeast Work Center, up until the Commission meets on the Company's 2019 Annual Service Quality Report so as to keep the Commission informed on both our efforts and the outcomes of our work on this important issue.

II. BACKGROUND OF PURPOSE FOR REPORT

A. The Commission's Concerns with Reliability Performance Over Time

In the Company's Annual Service Quality Report, the Company provides historical reliability data in an effort to provide the Commission with a better understanding of our reliability performance trends. Under the Annual Rules (which are normalized using IEEE 1366 at the Regional level), the results for the Southeast Work Center are as follows:

Table 1: Southeast Work Center Reliability Metrics 2010-2018

	2010	2011	2012	2013	2014	2015	2016	2017	2018
SAIDI	111.00	101.86	85.95	87.98	103.45	86.51	110.23	96.33	118.80
SAIFI	0.98	0.90	0.67	0.73	0.80	0.75	0.85	0.84	0.92
CAIDI	112.80	112.82	128.50	120.39	129.20	115.16	130.02	114.73	129.64

As Commission Staff noted in its Briefing Papers for the Company's 2018 Annual Service Quality Report, when the above information is put into a trend line, it shows that SAIDI and CAIDI in the Southeast Work Center have degraded since 2010, while SAIFI has remained roughly constant over the same period.

Over the past several years, the Commission has been closely watching and asking questions regarding the reliability performance and trends at the Southeast Work Center. As the Commission is aware, reliability goals for each work center are customarily set by using the previous five-year average, though the Commission is considering changes to this methodology. In approving the Company's 2017 Annual Service Quality Report (Docket No. E-002/M-18-239) and 2018 Annual Service Quality Report (Docket No. E-002/M-19-261), the Commission chose to freeze the Company's SAIDI and SAIFI goals for the Southeast Work Center at 2017 levels. Doing so effectively held the Company to more stringent goals than would have been contemplated by using the five-year average.

B. The Commission's Concerns with Staffing Levels Over Time

The Company's Annual Service Quality Report, it also provides information about the staffing levels at each work center for the previous two years. The Department of Commerce's comments, they customarily provide historical data for work center staffing levels. The previously reported staffing levels for the Southeast Work Center are the following:

Table 2: Southeast Work Center Staffing Levels 2010-2018

2010	2011	2012	2013	2014	2015	2016	2017	2018
64	63	58	54	57	55	50	49	48

In Staff Briefing Papers for the 2018 Annual Service Quality Report, Commission Staff noted that staff at the Southeast Work Center has been reduced by approximately 27 percent since 2009.

As described in more detail in Section IV below, upon a close examination of these staffing numbers, we believe that the Company has historically (at least back to 2010), included some jobs—such as Meter Technicians—that do not meet the definition in the Commission's rules about the type of work we should be counting in reporting these staffing levels. We believe this inadvertently over reported the extent of our staffing decline. We provide updated numbers and describe this issue in more detail below.

C. Order Point 5d in Docket No. E-002/M-19-261

The Commission's questions and concerns regarding reliability and staffing levels in the Southeast Work Center culminated at the Commission meeting on the 2018 Annual Service Quality Report. On January 28, 2020, the Commission issued its Order Accepting the Company's 2018 Annual Service Quality Report, Establishing Reliability Standards, and Requiring Additional Filings in Docket No. E-002/M-19-261. In the January 28, 2020 Order, the Commission included the following Order Point 5d, which required the Company to make a filing within 30 days of the written order providing:

> *For Xcel Energy, an explanation for the decline in staffing at its Southeast work center and a report on:*
>
> *i. steps taken to increase [Full Time Equivalents] at the Southeast work center in 2020,*
> *ii. the number of contractors versus employees at the Southeast work center, and*
> *iii. steps taken to improve reliability standards that are lagging at the Southeast work center.*

This report is provided in compliance with Order Point 5d.

III. OVERVIEW OF SOUTHEAST WORK CENTER

By way of background, the Southeast Work Center is geographically our largest work center. It comprises most of our southern Minnesota service territory, spanning from portions of Yellow Medicine county on the west—about 30 miles from the Minnesota-South Dakota border—to the Minnesota-Wisconsin border on the east.

The work center services approximately 122,000 customers on 132 feeders. It is primarily rural, with small municipalities throughout. The largest municipalities in the Southeast Work Center are Mankato (population 39,309)[1], Winona (population 27,592), Faribault (population 23,352), and Red Wing (population 16,459). In part because of the rural nature of the work center, it has long overhead feeder lengths. The Southeast Work Center also has a high percentage of overhead lines with low

[1] Population figures provided are based on 2010 Census data.

customer counts per circuit mile when compared to our twin cities service territory. The Southeast Work Center serves approximately nine percent of our Minnesota customers, but contains 18 percent of our circuit miles (overhead and underground) in Minnesota. These facts complicate both the staffing and reliability performance in the Southeast Work Center. The following chart summarizes key statistics that characterize the Southeast Work Center:

Table 3: Statistics on Feeder Location of Length in Southeast Work Center

Average Overhead Feeder Length	Average Underground Feeder Length	Percentage of Feeders Overhead	Percentage of Feeders Underground	Customers/ Circuit Mile
33 miles	13 miles	71%	29%	20

It is also worth noting that the Southeast Work Center has its share of severe weather. On September 20, 2018, for example, south central Minnesota experienced severe storms and 24 tornados throughout the area. This storm event caused over 10,000 (or nearly 10 percent) of the customers in our Southeast Work Center to be out of service.

The Southeast Work Center has four larger service centers located in the four largest municipalities identified above: Mankato, Winona, Faribault, and Red Wing. These four service centers employ both field and maintenance crews, as well as management, designers, work and service coordinators, and administrative staff; none of which have historically been reported in the staffing level counts provided in the Company's Annual Service Quality Reports but will be on a going forward basis per the Commission's Order on the 2018 Annual Service Quality Report.

Because of the large geographic area of the Southeast Work Center, the work center also has ten smaller offices located in: Bird Island, Cannon Falls, Dodge Center, Gaylord, Jordan, La Crescent, Montevideo, Northfield, Wabasha, and Waterville. In addition to these smaller offices in the Southeast Work Center, there are two other small offices—Pipestone and Slayton—that are in Minnesota and serve Minnesota customers, but are organizationally part of our South Dakota Work Center (i.e., the manager overseeing these field and maintenance personnel is out of the Sioux Falls, South Dakota office). There are approximately 8,000 Minnesota customers served by these two offices (and thus organizationally served by the South Dakota Work

Center). For reliability reporting purposes in the Annual Service Quality Report, however, the reliability for those 8,000 Minnesota customers are reported as part of the Southeast Work Center. For staffing purposes in the Annual Service Quality Report, the field and maintenance personnel that work out of the South Dakota Work Center are reported in the Other column, which notes that the category includes employees in North and South Dakota Work Centers, some of whom serve Minnesota customers. Currently, four field and maintenance personnel work out of the Pipestone district office and one works out of the Slayton office.

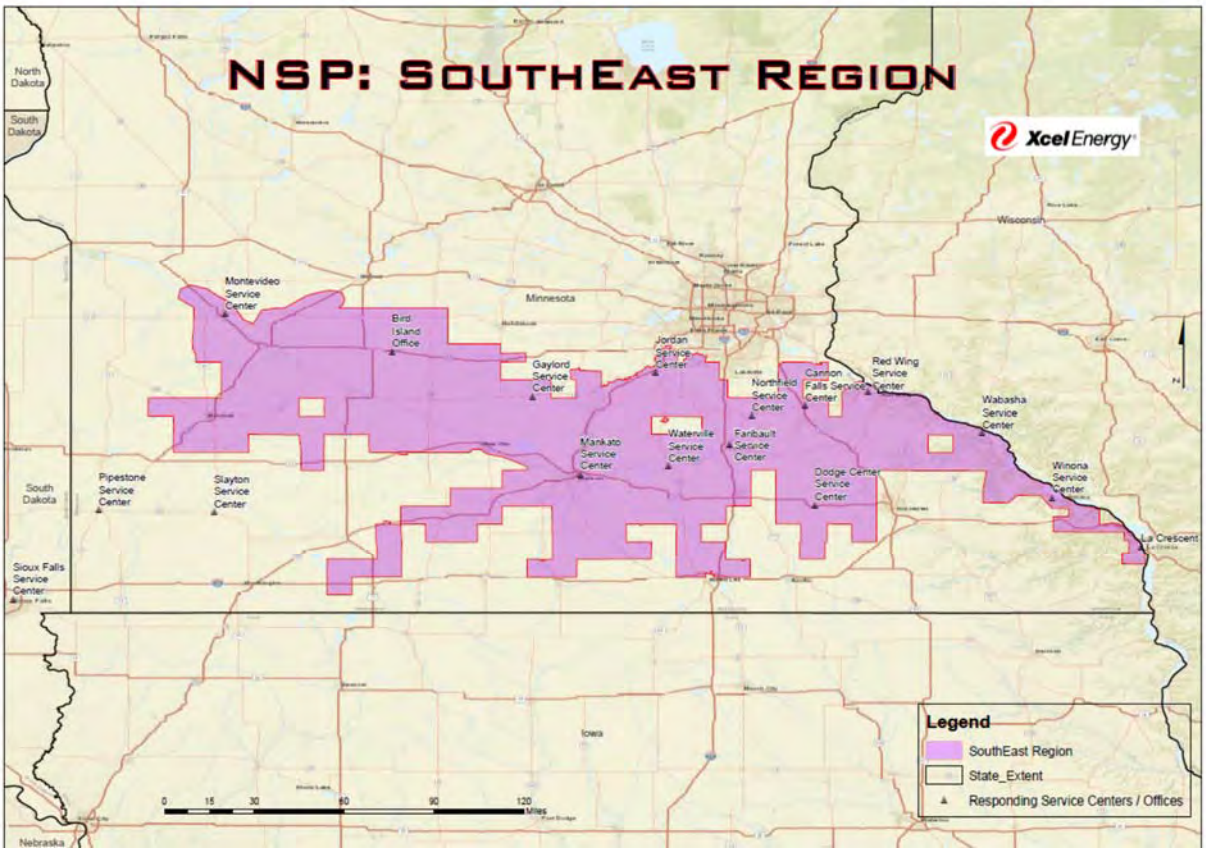
The smaller offices in the Southeast Work Center have one to four field and maintenance employees. These field and maintenance employees usually work out of smaller service centers, or in some circumstances, office out of their homes. The field and maintenance employees who work on their own have a bucket truck and some replacement materials (e.g., poles, transformers, and conductor); but, if they have a job that requires more labor or additional materials, they would contact central dispatch to deploy more crews to the impacted area. Table 4 below provides counts of the field and maintenance workers by service centers or district office as of December 31, 2019.

Table 4: Field and Maintenance Personnel by Service Center within the Southeast Work Center

Service Center/ District Office	Number of Field and Maintenance Personnel
Bird Island	1
Cannon Falls	1
Dodge Center	3
Faribault	10
Gaylord	2
Jordan	2
La Crescent	1
Mankato	10
Montevideo	4
Northfield	1
Red Wing	6
Waterville	1
Winona	7

Figure 1 below is a map showing the Southeast Work Center, the service centers and district offices within it. In the map of the Southeast Work Center, please note that it also shows the Pipestone, Slayton, and Sioux Falls offices. These service centers or district offices technically are part of our South Dakota Work Center, but as described above, Pipestone and Slayton provide service to Minnesota customers.

Figure 1: Map of Southeast Work Center



IV. STAFFING AT SOUTHEAST WORK CENTER

A. Explanation of Decline in Staffing 2010-2018

As Commission Staff noted in Briefing Papers for the Commission hearing on the 2018 Annual Service Quality filing, staffing in the Southeast Work Center has declined 27 percent since 2009.

Upon a closer examination of these staffing numbers we provided historically, we believe that previously we essentially pulled a list of field employees, which included jobs such as Meter Technicians. The rule under which we are reporting data, Minn. R. 7826.0700 subpart J, requests "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." Based on the rule, we believe that employees like Meter Technicians, who are responsible for setting meters but are not responsible for responding to trouble or otherwise operating and maintaining the system, should not have been included. In other words, we believe the Company overstated the staffing numbers for the Southeast Work Center beginning in at least 2010 and most likely from the time this annual report was inaugurated, resulting in our overstating the decline in staffing from 2010 to 2018.

The chart below provides updated numbers from 2010-2018 that ensures consistent reporting of applicable job types (e.g., Lineman, Foreman, and Troubleman) year over year. As illustrated below, while the Company still experienced a decline in staffing over this time period, that decline is much smaller than 27 percent.

Table 5: UPDATED Southeast Work Center Staffing Levels 2010-2018

2010	2011	2012	2013	2014	2015	2016	2017	2018
52	52	51	53	53	51	47	46	49

We regret the discrepancy between the staffing levels reported previously (Table 2) and those reported in this filing (Table 5) and commit to providing additional information on the variance in future quarterly reports.

There are two primary and related reasons for the remaining reduction in staffing at the Southeast Work Center relative to 2010. The first relates to efficiencies in field and maintenance equipment. Today, there are smaller bucket-types of equipment, also known as mini-lineman, and excavators available on the market. This equipment

better allows field crews and maintenance workers to perform more efficient work; for example, to drive a bucket truck into a customer's backyard to replace a pole, fix a transformer, or repair a conductor. Similarly, there is new equipment (hydro-vacuums) that more efficiently excavates underground lines and conduit for repair and maintenance. This equipment did not exist 10 years ago and allows field and maintenance workers to excavate more efficiently than using a trencher, backhoe, or hand excavating.

The second reason is attrition, as the Company eliminated a number of district representative positions when employees retired or otherwise chose to leave the Company. The duties of a district representative in the past were somewhat different than a lineman or foreman. In addition to the first responder duties of a foreman or lineman, a district representative also attends city meetings, attends pre-construction meetings, and flags and stakes routes for construction. Today, these types of tasks are more commonly performed by designers or community service managers. Below is a chart providing the number of district representatives in the Southeast Work Center over the same time period:

Table 6: District Representatives in Southeast Work Center 2010-2018

2010	2011	2012	2013	2014	2015	2016	2017	2018
15	15	15	15	15	13	12	11	10

B. Number of Contractors vs. Employees at Southeast Work Center

The Company also hires contractors to perform field and maintenance work, but the Company's contracts with its bargaining employees contain certain agreements regarding when and how contractors can be used. As a general principle, the number of contractors in a region cannot exceed the number of internal field and maintenance personnel. The Company hires contractors to assist with large requests for new service, such as work related to a solar garden, or maintenance projects such as large pole replacement projects discovered through our pole testing program or major distribution line rebuilds. Contractors can also perform outage response if the Company experiences staffing constraints or if there is emergent outage work (for example, an anticipated large storm system) and the Company determines it is reasonable to redeploy contract crews to the area to respond to expected outages.

Because of the nature of this work, contractors are not assigned to a particular work center. Rather, they work in various work centers depending on the service needs of our customers in Minnesota. Historically, the Company uses the most contractors during the summer months (when most contractor time is used assisting with large requests for new service) and fewer contractors during the winter months. However, the Company does utilize contractors in the winter for programmatic maintenance work, like the pole replacements or distribution rebuilds described above.

C. Steps Taken to Increase Full Time Equivalents at Southeast Work Center

Since mid-2019, the Company has engaged in an effort to hire additional field and maintenance personnel in the Southeast Work Center. There are five additional positions that are currently in the hiring process. It is expected that these five additional employees will be hired by late spring of 2020. The Company plans to post and fill one additional position by the end of this year.

These six new maintenance and field personnel in the Southeast Work Center will be located at the Faribault, Jordan, Montevideo, and Winona service centers. The Company decided to place these new field and maintenance personnel at these locations based on the requests for new business and maintenance needs on existing infrastructure over the past several years in these areas. As it is difficult to predict exactly when and where large outages (generally due to storms) will occur, outage history is not a primary factor in deciding which service center(s) new employees will work from. That said, having additional personnel dispersed throughout the work center should help the Company better respond to outages.

V. RELIABILITY WITHIN SOUTHEAST WORK CENTER

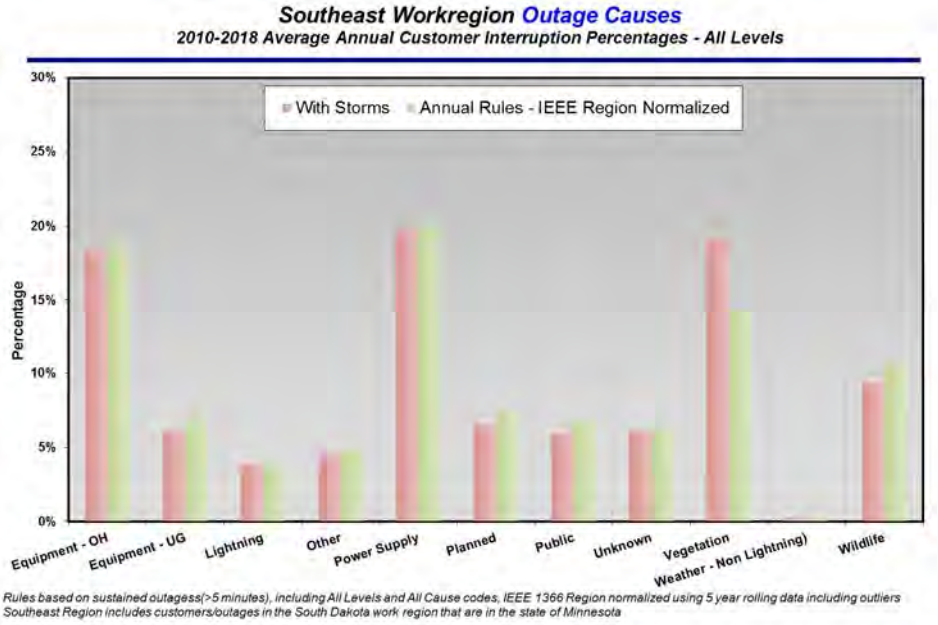
A. Evaluation of Outage Causes in the Southeast Work Center.

In our Annual Service Quality filing, we most often look at the outage causes for the whole state of Minnesota. Because the Commission asked the Company to look specifically at the Southeast Work Center, we are undertaking a process to determine the root cause of outages in this work center.

This process began with an analysis of the cause of historical outages specifically within the Southeast Work Center from 2010 to present. The Company determined

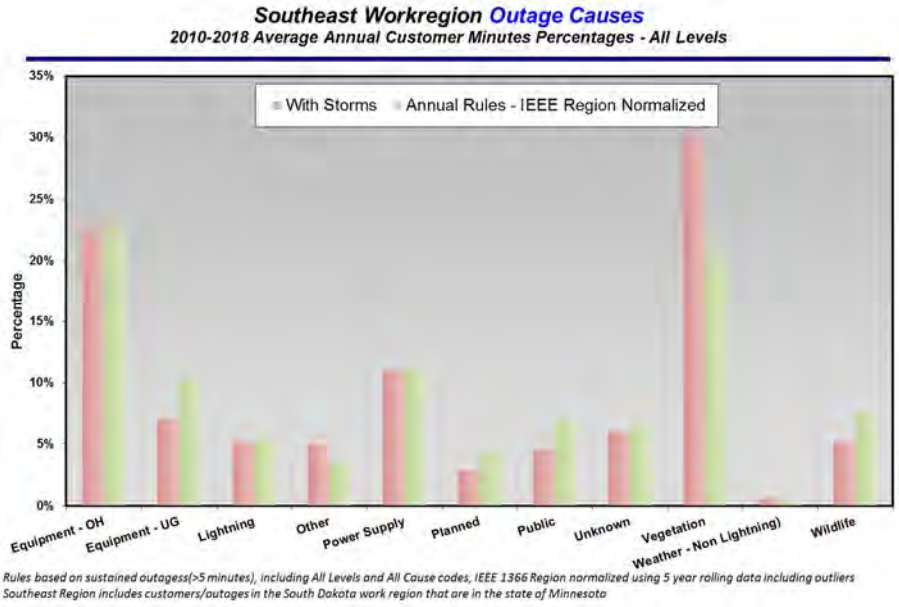
that Overhead Equipment, Power Supply, and Vegetation were the three most dominant causes for customer outages in the Southeast Work Center.

Graph 1: Southeast Work Center Outage Causes by Customer Interruption Percentage



Because those three causes roughly equally contributed to customer sustained outages, we also looked at the Customer Minutes Out for these and all other causes. When the Company looked at its reliability performance in this manner, Vegetation outage events result in the longest outages, followed by Overhead Equipment and then Power Supply.

Graph 2: Southeast Work Center Outage Causes by Customer Minutes Out Percentage



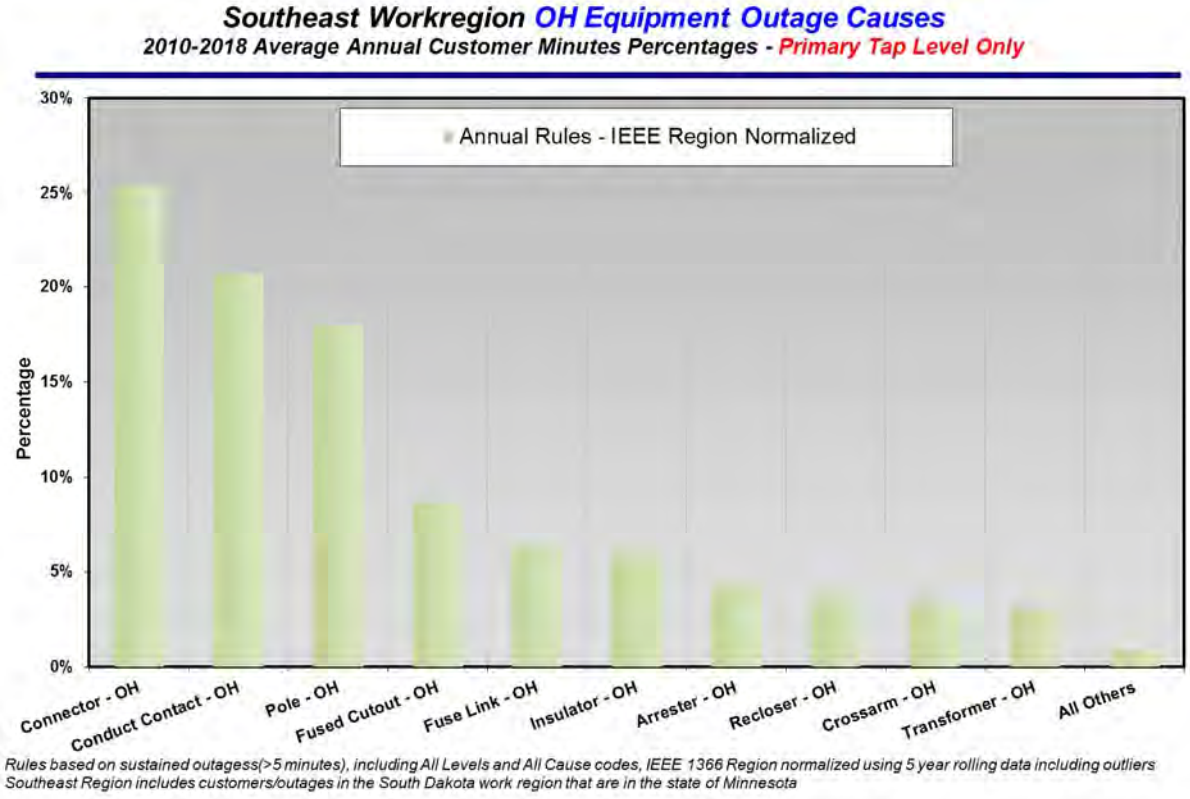
Vegetation outages are typically one of the most frequent causes and frequently have the longest average outage length since a Vegetation event tends to occur during stormy weather and outage length is heavily dependent on the queue developed to have crews respond to the storm. The Overhead Equipment is made up of hundreds of components, so we did additional analysis described below on the specific cause within the Overhead Equipment category. Finally, the Power Supply category generally includes outage events caused at the transmission level. As expected, transmission events can cause outages to large customer groups, but restoration is typically the quickest. This is illustrated by the difference between the two charts above showing Customer Interruption percentages and Customer Minutes percentages.

The overhead system is made up of hundreds of different components. Determining which are contributing to outages requires a deeper dive from several different perspectives, including:

- which of these components are failing more frequently?
- which component failures could be mitigated?
- at what point in the overhead system (e.g., the tap line, main line, secondary line, or service line) are we seeing the failure?

The overhead tap system is the largest contributor to the Customer Minutes Out in the Southeast Work Center. Below is a chart showing the overhead component failures that are contributing to the most Customer Minutes Out on the tap portion of the system.

Graph 3: Southeast Work Center Overhead Tap Equipment Outages Causes



B. Steps Taken or Planned to be Taken to Improve Reliability Standards that are Lagging at the Southeast Work Center

With a better understanding of the causes of outages in the Southeast Work Center, we then focused on the main contributors—Vegetation and Overhead Equipment.

Review of our Vegetation program found that the Southeast Work Center has drifted off its on-cycle vegetation management programming, achieving 100 percent on-cycle in 2015, but only achieving around 92 percent on-cycle at the end of 2019. It is likely that this departure from on-cycle vegetation management practices had a meaningful

impact on reliability metrics, especially because of the high percentage of overhead lines in the Southeast Work Center. Plans are underway to have 100 percent on-cycle status by the end of 2020—this means catching up on the line miles of vegetation that were not maintained in the previous five years, as well as trimming all of the line miles scheduled for 2020. The Company has also identified three feeders that had a larger number of tree events in the last few years compared to earlier years and are also off-cycle. The Company has started work on two of these feeders and have prioritized the other feeder to be completed as early as possible. In addition, the backbone of the feeder that is not in progress will be patrolled to identify and remediate any key vegetation issues. Based on these efforts, we expect to see improvements to the number of outages due to Vegetation by 2021.

Additionally, it is the Company's practice to review every tree outage that affects 100 or more customers to determine if the outage was preventable, essentially analyzing whether the outage would have occurred if the tree had been trimmed the day before it impacted the line. This standard of outages impacting 100 or more customers captures a large percent of the customers affected by tree events. We find that approximately 90 percent of tree events reviewed are considered non-preventable—i.e., trimming trees the day prior would not have impacted the large majority of outages. In 2020, we are initiating additional review of tree impacts in our Southeast Work Center. Within the Southeast Work Center, we will review some tree outages that impact fewer than 100 people to determine if we are missing opportunities to improve vegetation management activities on smaller single phase taps. The Company is still determining how it will select the tree outages for additional review (e.g., a random sampling, all tree outages that impact more than 75 people).

With regard to the Overhead Equipment, as mentioned in our 2018 Annual Service Quality filing, the Company planned to initiate a pilot program in the Southeast Work Center to replace porcelain fused cutouts with polymer cutouts. Cutouts are devices that hold a fuse. Porcelain cutouts tend to crack causing an outage or the extension of an outage if they break while being operated. Polymer cutouts do not exhibit this problem. The pilot project is focused on three feeders and work is approximately 30 percent complete and is expected to be completed in 2020. Replacement of the porcelain cutouts is expected to show a reduction in cutout failures in 2021. The benefits of this program will be evaluated and a possible expansion of this program will be reviewed after the pilot is completed.

As explained above, because there are so many components of the overhead system and so many questions that need to be analyzed to understand the root cause, it makes mitigation of overhead outages much more difficult to pinpoint solutions. We will continue to investigate specific areas to target remediation. In their Briefing Papers for the 2018 Annual Service Quality filing, Staff noted that CAIDI performance was also declining over time. We will also investigate to determine possible causes for the CAIDI trend. We will report to the Commission on both of these efforts in future quarterly reports.

In addition to the work the Company plans for the near future, the Company has also completed a number of projects to improve reliability in the Southeast region over the last few years. After reviewing records for larger projects, the following list is representative, but not complete. Representative examples of projects are also provided below.

- The Feeder Performance Improvement Program evaluates and implements improvements for feeders experiencing an increased number of outages based on prior year information. This program has identified and completed at least nine projects. An example of work completed was a feeder in Northfield that was experiencing a variety of issues on the mainline. This included replacing a switch and multiple cross arms and poles, along with adding back-up connectors on a specific connector type that was identified to be problematic. Fault indicators were also added to improve restoration time.
- For Customers Experiencing Multiple Outages, the Reliability Management System helps us identify specific equipment issues (for instance, the same device tripping multiple times). This program has identified and completed three larger projects. An example is in the Redwing – Lake City area, where it was found that updating a recloser would generally reduce the number of customers experiencing an outage.
- The Mainline and Tap Cable Replacement Program identifies deteriorating non-jacketed cable failing and causing repeat outages. This program identified and completed seven cable replacement projects. In Red Wing, a half mile of cable with multiple cable failures was replaced in a neighborhood, along with extending the line to create a loop. The loop will allow for faster restoration.

- Five general reliability/equipment failure projects were completed. Examples for these types of projects are adding a switch in Faribault to improve restoration time and in Winona proactively replacing an older recloser.
- Overhead lines that travel in wooded areas away from roadways are a substantial cause for long-duration outages. Three projects to move the lines to the roadways were completed. An example was a line in the Altura area running below the bluff that was subjected to debris falling from above causing frequent and long outages. The line was moved away from the bluff and alongside the road for reduced outages and faster patrol time.

Additional opportunities have been identified. Projects to upgrade the capacity also should improve the infrastructure health.

In 2020, the Company will continue to investigate other areas for improvement. These may include mitigations on specific feeders that have multiple types of outages that may be addressed through equipment or protection changes. Updates will be provided quarterly as work in this area progresses.

VI. CONCLUSION AND RECOMMENDED NEXT STEPS

The Company is making improvements in staffing in the Southeast Work Center, with more hires to be made by the end of 2020. The Company has not yet seen an improvement in its reliability metrics for the Southeast Work Center but has a better understanding of the root cause of the reliability issues in the region, as well as plans for system improvements and programmatic changes. We are optimistic these improvements and changes will start to positively impact reliability metrics in the Southeast Work Center in 2020, and we are committed to tracking and reporting outcomes to the Commission. We are likewise committed to seeking additional means of improving reliability metrics in the Southeast Work Center this year and continuing to evaluate the outcomes of the efforts described in this filing.

To keep the Commission informed of our work on both fronts, we plan to do the following:

- File this report both in the 2018 Annual Service Quality Docket, as ordered by the Commission and in our 2019 Annual Service Quality Docket, when it is filed in April 2020.

- File quarterly updates approximately 30 days after the end of each quarter in the 2019 Annual Service Quality Docket, until the time the Commission considers our 2019 Annual Service Quality Report, to provide the Commission with an update where the Company is with regard to improvements in staffing levels and reliability metrics in the Southeast Work Center.

Order Point 3 in the Commission's December 12, 2014 Order in Docket No. E-002/M-14-131 required the Company "to augment its next filing to include a description of the policies, procedures and actions that it has implemented, and plans to implement, to assure reliability, including information on how it is demonstrating pro-active management of the system as a whole, increased reliability, and active contingency planning."

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.

Reliability Management Program Development

Causes and trends for historical outages are monitored and reviewed to identify opportunities to maintain and improve reliability. Investments in reliability improvement are made in addition to other capital programs that provide for adequate capacity to meet customer requirements. Investments for improvement become part of the reliability management program. A reliability core team, consisting of both field and planning functions, monitors system performance and progress against performance targets on a regular basis, taking actions as necessary to ensure the best possible system performance.

High value 2019 programs continuing into 2020 include: Feeder Performance Improvement Program (FPIP); Outage Exception Reporting Tool (OERT); proactive mainline and tap cable replacement; substation transformer and breaker condition assessment; and vegetation management (tree trimming). The vegetation management program includes investigation of tree related events causing large outages to determine if the outage would have been preventable if trimming had occurred the day before the outage. These programs all target primary outage cause codes seen in 2019 and prior years' performance. They are expected to support strong system performance. The reliability core team will continue to monitor system performance on a regular basis to determine if additional and/or shifts in actions should be initiated as the year unfolds.

In 2019, six automated switches were installed for a FLISR (Fault Location Isolation and Service Restoration) pilot project. This project is providing a test of this technology which has potential for reducing the number of customers experiencing service interruptions. Testing and monitoring is extending into 2020. Monitoring and assessment is also continuing into 2020 for a pilot project of cutout mounted reclosers (TripSaver) that automatically restore temporary outages on previously fused laterals which reduces the number of service interruptions to customers.

Performance improvement plans in 2020 also include multiple initiatives for improving electric service in the Southeast work area, as detailed more in our previously filed report on the Southeast work center, which is attached to this filing at Attachment C. An example of increased efforts is an enhanced investigation of tree related interruptions.

Improvements to existing work practices that reliability core team members and their staff identify and implement are important contributors to reliable utility performance and good customer reliability experience. Improvements include operational and/or procedural changes to reduce the duration and the frequency of outages. Many of these improvements do not require additional funding to implement, and are achieved via ongoing employee training and/or incorporation into standard work procedures. System improvement programs are monitored and updated as appropriate.

1. Reliability Management Programs – 'Star Chart'

After considering the most common failures and their causes, as well as at-risk equipment, we have developed work plans, or programs, to target our investments; we show a summary of 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.

Reliability Management Program Impacts (Star Chart)

Table 1

NSPM Program Summary

	Funded Programs	Description	2017 Actuals (k$)	2018 Actuals (k$)	2019 Actuals (k$)	IMPACTS			
						SAIFI	CAIDI	CEMI	Complaints
Reliability	**Feeder Perf. Improvement Program** (OH & UG)	FPIP evaluates and implements improvements for feeders experiencing an increased number of outages based on prior year information.	870	1,451	1,138	★		★	★
	Outage Exception Reporting Tool (OH & UG)	OERT process provides automatic notification to area engineers when repeating outage criteria have been met and engineering solutions are implemented to eliminate recurring problems.	455	490	292			★	★
	Mainline Cable Replacement, (UG)	Deteriorating non-jacketed cable is failing and causing repeat outages. Proactive and reactive replacement of this cable reduces the outages.	3,056	1,930	2,557	★			★
	Tap (URD) Cable, (UG)		18,329	19,593	15,019	★	★		★
	Feeder Infrared Evaluation (OH)	Many pieces of equipment show excess heating prior to failure. The FIRE program provides infrared scans of overhead mainline which reveal specific equipment that is likely to fail so it can repaired prior to causing an outage.	20	58	40	★			
	Vegetation Management (Transmission & Distribution)	Cost benefit prioritized circuit trimming in NSPM. Continued reactive "Hot Spot" trimming.	29,024	29,352	31,193	★		★	★
	Program Replacements (Transmission)	Replaces end-of-life equipment (i.e. - switches, laminated arms, specific insulators, poles) in order to reduce maintenance costs and improve reliability.	11	229	1,444	★			★
Integrity	**Pole Inspection & Replacement** (Distribution)	Pole Inspections include an above groundline visual inspection. Groundline inspections are based on age and environment and may include visual, sound and bore and excavation. Treatment of poles may be included. Based on results poles may be tagged for replacement.	7,707	11,035	20,500	★	★		
	Transmission Substation	Replaces end-of-life equipment in order to reduce maintenance costs and improve reliability.	6,984	9,228	5,759	★			
	Line ELR Work (Transmission)	Identifies lines that have components that have reached their end of life or where significant refurbishment work is needed to enhance system performance and reliability. Project focus may be to extend life of existing asset 20 + years or to replace and address future capacity upgrade concerns.	4,824	2,834	5,303	★			★

Footnote: The above table reflects multi-year initiatives that are part of the reliability management program. Information is based on current programs and is subject to change.

Funding information for previous years is a combination of Capital and O&M dollars; most of the equipment replacement dollars are capital expense while the inspection and testing programs include O&M dollars; O&M dollars and capital for pole replacements and FIRE program are currently estimates since changes are included in broader programs of work(e.g., OH rebuild OH maintenance accounts).

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

2. Reliability Management Programs – Key Initiatives

The table below outlines primary program indicators for our key initiatives/programs. The actual amount of work completed under each program varies from year to year, and is based primarily on assessments of those areas requiring the greatest attention, as well as the results of our condition assessment (*i.e.,* the number of deficiencies requiring corrective action). For further description of the programs described in Table 2 below, Key Initiatives, please see the Star Chart (Table 1 above).

Table 2
Reliability Management Key Initiatives/Programs

	2019	2018	2017	2016	2015	2014	2013
Outage Exception Reporting Tool (OERT) (Replaced REMS in 2016)							
# of Exceptions identified	3,735	4,014	3,398	6,635	4,935	5,105	5,107
# of Service & Work Requests identified	518	652	297	215	408	455	698
Vegetation Management Program							
Total Overhead Distribution miles completed	2,647	2,307	2,417	2,086	1,856	3,737	2,780
Total Overhead Transmission miles completed	896	768	762	1,039	909	879	846
Normalized Tree-coded Sustained Cust Ints.(W/O Storms)	170,994	214,299	145,422	155,370	106,215	93,010	103,795
Non-normalized Tree-coded Sustained Cust Ints.(With Storms)	242,158	243,867	277,068	305,946	220,787	154,642	439,030
Underground Cable Replacement Program							
# of Segments That Have Been Replaced (est.)	1,158	1,504	1,411	1,378	861	1,165	1,256
# of Failures(Only on Primary Cable)	1,301	1,366	1,453	1,607	1,560	1,386	1,564
Feeder Infrared Evaluation(FIRE)							
# of Feeders Scanned	280	209	248	275	256	267	239
# of Hot Spots Corrected	55	67	71	68	99	62	52
Feeder Performance Improvement Plans(FPIP)							
Investigations Completed	111	108	113	105	96	108	98
Wood Pole Inspection Plan							
Total Distribution Wood Poles Inspected	10,312	33,720	17,972	18,845	10,213	9,198	31,436
Total Transmission Wood Poles Inspected	3,381	2,464	4,000	4,660	4,119	3,565	4,413

Information based on current RMP, subject to change

3. Reliability Management Programs – Work Practices

Improvements to existing work practices that the reliability core team 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, or to reduce the *frequency* of outages.

As noted in the Reliability Management Work Practices table 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.

Table 3
Reliability Management Work Practices

Areas of Opportunity	Key Initiative	Action/ Program	Description	Reliability impact
Resource Management	**Duration**	**Contractor staffing**	Use contractors for appointments, freeing up Xcel Energy crews to respond to outages	Medium
	Duration	**Management Staffing**	Schedule managers for staggered shifts in metro area to enable human response after hours: 3 managers working 5:30 a.m. to 4:00 p.m.; 1 manager 3:00 p.m. to 11:00 p.m.	Medium
Substations	**Frequency**	**System integrity**	Substation inspection done on every substation specific to identifying animal incursion risk and vegetation issues	High
	Frequency	**Infra Red Substations**	IR Subs after major equipment is switched out or thermal heating suspected	High
	Duration	**Equipment Failure Response**	Install Mobile subs and drag cables as quickly as possible when customers are out due to equipment failure	Medium
Feeders	**Duration**	**Restore before repair**	During a feeder event Control Center personal restore service to as many customers before making temporary/permanent repairs.	Medium
	Frequency	**Intentional Outages**	Reduce Impact of Intentional Outage to ensure all steps are being taken to keep the maximum number of customers on Verify switching to reduce customer counts. Repair while hot instead of taking the outage.	Medium
	Frequency & Duration	**VM Partnership**	Partner with Vegetation Management leadership to prioritize trimming of circuits that are scheduled to be trimmed. Substations to be trimmed with associated Feeders	High
	Frequency & Duration	**Feeder Patrol Program**	Looking for unfused taps and animal protection. Identify 336 auto splices. Continued use of IR/thermo imaging to identify problems.	Medium
Control Center	**Duration**	**Restore before repair**	Advanced technology going into the control centers and the field	High
Control Center	**CAIDI**	**Model 1/0 Switching**	This is a pilot project to model 1/0 urd as close to real time so the OMS model will reflect the configuration of the urd circuit after it has been switched	Medium
	CAIDI	**Validate Restoration Times**	Tighten up existing process on actual restoration times, utilize approver process to ensure outage times are correct	High
COM	**CAIDI**	**COM Saturday Crews**	6 Metro COM Saturday Crews. 3 Metro East and 3 Metro West	Medium
	SAIFI & CAIDI	**Underground cable repair**	Repair and/or replace cables as directed by engineering	High
	SAIFI	**REMS/CEMI work**	Complete work referred by engineering in a timely manner	Low
Reliability Team/ Communications	**SAIFI & CAIDI**	**On-going Regular Reliability meeting**	Meet regularly to review reliability, and share ideas to improve reliability performance	**Low**
	CAIDI	**Outage Review**	Root Cause Investigation of outages greater than 90 minutes of 0.1 SAIDI	Medium

CEMI Tools

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

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

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

The Company provides more detail about CELI metrics, including responding to specific Commission order points, in the body of its Annual Report.

Conclusion

In summary, 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 reliability management programs and other actions provide a solid foundation on which to deliver reliable performance of our distribution system.

Metro East

	Feeder ID	Substation	City	SAIFI	SAIDI	CAIDI	All levels, All Causes included: Total Outages	Total Customers Affected	Total Customer Mins Out	All Causes, Distribution Substation, Transmission Substation, and Transmission Line levels: Bulk Power Supply Outages	Bulk Power Supply Customers Affected	Bulk Power Supply Customer Mins Out	All levels, No "Planned" Cause Includes Bulk Power Supply: Unplanned Outages	Unplanned Customers Affected	Unplanned Customer Mins Out	All levels, "Planned" Cause only Includes Bulk Power Supply: Planned Outages	Planned Customers Affected	Planned Customer Mins Out
	[Security Data Begins																	
1			Apple Valley	1.00	770.00	770.00	1	1	770	0	0	0	1	1	770	0	0	0
2			Eagan	3.05	441.96	145.08	11	591	85,740	0	0	0	10	503	84,860	1	88	880
3			Wyoming Twp	1.56	434.55	279.24	44	3,808	1,063,342	0	0	0	38	3,609	1,050,592	6	199	12,750
4			Cottage Grove	3.50	415.00	118.57	4	7	830	2	4	122	4	7	830	0	0	0
5			Rosemount	2.12	334.13	157.47	10	3,081	485,160	1	1,412	193,444	10	3,081	485,160	0	0	0
6			Saint Paul	1.93	303.29	156.87	8	203	31,845	0	0	0	8	203	31,845	0	0	0
7			Hugo	2.99	285.93	95.55	220	18,590	1,776,188	0	0	0	201	15,619	1,702,858	19	2,971	73,329
8			Lakeville	1.61	272.82	169.67	36	3,539	600,472	0	0	0	23	3,419	591,271	13	120	9,201
9			Newport	2.02	244.17	121.07	3	121	14,650	0	0	0	2	118	14,590	1	3	60
10			Lent Twp	1.89	238.22	126.35	143	5,988	756,577	0	0	0	114	5,907	746,164	29	81	10,413
11			White Bear Lake Tv	2.27	236.57	104.04	31	3,022	314,396	0	0	0	25	1,648	296,871	6	1,374	17,525
12			Cottage Grove	4.33	226.68	52.32	15	2,504	131,019	1	573	33,807	14	2,456	130,683	1	48	336
13			Saint Paul	2.45	225.24	91.84	18	1,501	137,847	0	0	0	15	1,472	134,227	3	29	3,621
14			Saint Paul	1.27	225.15	176.64	39	3,871	683,781	0	0	0	34	3,680	676,416	5	191	7,365
15			Saint Paul	2.32	225.09	96.88	11	5,778	559,791	0	0	0	9	5,250	524,943	2	528	34,848
16			Eagan	2.65	222.99	84.12	7	395	33,226	0	0	0	7	395	33,226	0	0	0
17			South Saint Paul	1.31	215.48	164.50	22	2,866	471,468	0	0	0	15	2,625	454,813	7	241	16,655
18			Shafer Twp	0.93	214.14	231.45	99	1,781	412,216	0	0	0	82	1,438	393,954	17	343	18,262
19			Cottage Grove	2.18	211.78	97.21	26	5,623	546,605	1	2,572	141,460	21	5,571	545,242	5	52	1,363
20			Mendota Heights	3.03	193.49	63.91	49	5,513	352,349	0	0	0	21	3,509	197,979	28	2,004	154,370
21			South Saint Paul	0.37	187.22	501.38	14	351	175,984	0	0	0	10	333	171,630	4	18	4,354
22			Saint Paul	3.00	186.00	62.00	3	3	186	0	0	0	3	3	186	0	0	0
23			Franconia Twp	0.93	185.94	200.43	124	2,694	539,965	0	0	0	113	2,582	530,981	11	112	8,984
24			Arden Hills	1.83	182.27	99.73	20	2,842	283,435	0	0	0	18	2,757	280,224	2	85	3,211
25			Arden Hills	1.25	175.42	140.15	33	2,248	315,059	0	0	0	28	2,150	306,127	5	98	8,932

(1) Based on Jan 1-Dec 31, 2019, year-end normalized data (IEEE Op Co Level)
"Total" includes all causes, all levels
"Bulk Power Supply" includes Distribution Substation, Transmission Substation, and Transmission Line levels, all cause codes
"Unplanned" inlcudes all levels and no outages with a primary cause code of "Intentional/Planned", Includes Bulk Power Supply outages
"Planned" includes all levels and only outages with a primary cause code of "Intentional/Planned", Includes Bulk Power Supply outages

Metro East Poor Performing Feeders (2)
Based on performance Sept 2018 to Aug 2019, Major Event Days are included

	Feeder ID	Substation	City	SAIFI	SAIDI	CAIDI	Reasons for Poor Performance	Operational Changes Made, Considering or Planned
A			Hugo	2.28	302.65	132.61	Total CMO = 1,600.8k; 459.1k (28.7%) 5/20/19 only feeder outage due to Unknown, 745.5k (46.6%) various tree outages various taps and dates.	Replace 107 cross-arms, Install 13 ClampStars over Automatic Splices, replace 10 lightning arresters and 3 cutouts to be completed by 9/2020. Schedule feeder trim in 2020.
B			Afton	0.54	208.80	389.46	Total CMO = 1,054.7k; 542.4k (51.4%) 7/20/19 tap outage due to lightning strike causing OH XFMR failure and pole replacement, 318.2k (30.2%) 4/22/19 two broken poles due to high winds.	Failed transformer and pole replaced 7/20/19. Two broken poles replaced 4/22/19. Replace 16 cross-Arms and insulators, 10 lightning arresters and 4 cutouts to be completed by 9/2020. Feeder last trimmed in 2017.
C			White Bear Lake	2.53	330.17	130.52	Total CMO = 900.7k; 457.4k (46.2%) 7/15/19 feeder outage due to two broken X-arms due to trees in wind & lightning, 402.4k (40.6%) Vegetation outages various taps various dates.	Scheduled feeder tree trim completed 12/28/2018. On 7/15/2019 a large maple limb fell off tree in high winds causing 2 cross-arms to break. Ash tree on mainline was improperly trimmed due to Ash Borer issues, causing a 2019 feeder outage, this has been resolved and no other instances of this improper trim were found on feeder. Replace 5 cross-arms, installing 4 ClampStars over Automatic Splices, install 10 new cutouts and 6 new arresters scheduled completed by 9/2020. Feeder last trimmed 12/2018.
D			Lindstrom	0.75	158.78	210.88	Total CMO = 457.6k; 193.4k (42.3%) 6/1/19 feeder outage due to branches in 2 phases due to wind, 163.1k (35.6%) Vegetation outages various taps various dates.	Feeder Last Trimmed 12/15/2017.
E			Afton	1.06	142.19	133.99	Total CMO = 876.8k, 776.1k (88.5%) 9/18/18 feeder outage due broken pole due to lightning.	Broken pole replaced 9/18/18. 2019 FPIP identified work was completed in 1qtr of 2020 which included Install 30 ClampStars, Remove 9 Abandon Poles, Install 7 sets of OH FI's, Replace 3 cross-Arms, Install 2 cutouts for sub fusing off taps & Refuse 2 locations, replace 4 cutouts at 2 Capacitor Banks. Schedule feeder trim in 2020.
	Security Data Ends]							

(2) Distribution outages only, Major Event Days are included

Metro West

	Feeder ID	Substation	City	SAIFI	SAIDI	CAIDI	All levels, All Causes included: Total Outages	Total Customers Affected	Total Customer Mins Out	All Causes, Distribution Substation, Transmission Substation, and Transmission Line levels: Bulk Power Supply Outages	Bulk Power Supply Customers Affected	Bulk Power Supply Customer Mins Out	All levels, No "Planned" Cause Includes Bulk Power Supply: Unplanned Outages	Unplanned Customers Affected	Unplanned Customer Mins Out	All levels, "Planned" Cause only Includes Bulk Power Supply: Planned Outages	Planned Customers Affected	Planned Customer Mins Out
	[Security Data Begins																	
1			Coon Rapids	2.06	771.58	373.93	25	4,263	1,594,074	0	0	0	18	4,091	1,576,728	7	172	17,346
2			Winsted Twp	4.17	699.39	167.89	23	2,816	472,788	2	1,347	197,088	17	2,004	448,735	6	812	24,053
3			Coon Rapids	2.16	445.28	206.46	12	2,985	616,270	0	0	0	10	2,926	599,220	2	59	17,050
4			Watertown	2.07	441.26	212.71	29	2,952	627,913	2	2,830	606,807	23	2,932	626,301	6	20	1,612
5			Eden Prairie	2.56	362.19	141.44	6	1,393	197,031	0	0	0	6	1,393	197,031	0	0	0
6			Burnsville	1.56	344.63	220.97	11	1,530	338,086	0	0	0	10	1,526	337,754	1	4	332
7			Winsted Twp	2.26	341.15	150.74	54	2,804	422,686	2	2,482	363,613	39	2,758	419,460	15	46	3,226
8			Watertown	2.22	328.15	147.71	41	2,737	404,283	2	2,447	353,839	31	2,691	402,239	10	46	2,044
9			Saint Louis Park	2.48	326.88	131.72	32	3,586	472,343	0	0	0	20	3,404	459,118	12	182	13,225
10			Burnsville	2.39	322.69	134.93	46	3,958	534,051	1	1,649	379,270	42	3,944	533,493	4	14	557
11			Eden Prairie	1.97	317.81	161.65	5	1,390	224,695	0	0	0	4	1,302	200,759	1	88	23,936
12			Burnsville	1.54	314.21	204.45	9	146	29,850	1	93	24,180	4	135	28,557	5	11	1,293
13			Waconia Twp	1.99	298.33	149.79	39	2,625	393,198	0	0	0	36	2,611	392,336	3	14	861
14			Saint Louis Park	1.62	264.24	163.59	11	1,696	277,448	0	0	0	8	1,101	122,526	3	595	154,922
15			Brooklyn Park	1.82	263.45	144.44	36	8,764	1,265,865	0	0	0	26	6,787	945,379	10	1,977	320,485
16			Eden Prairie	2.30	254.38	110.48	35	5,236	578,455	0	0	0	19	5,162	566,189	16	74	12,266
17			Golden Valley	2.04	244.15	119.95	9	576	69,094	0	0	0	7	539	67,455	2	37	1,639
18			Wayzata	0.54	238.98	442.37	29	450	199,066	0	0	0	26	438	197,012	3	12	2,054
19			Saint Louis Park	2.27	238.25	104.84	33	2,009	210,615	0	0	0	24	1,567	185,412	9	442	25,203
20			Golden Valley	2.39	235.88	98.85	40	2,558	252,865	0	0	0	22	2,487	247,594	18	71	5,271
21			Minneapolis	2.04	232.88	114.17	8	2,105	240,329	0	0	0	7	498	50,703	1	1,607	189,626
22			Burnsville	0.43	224.29	523.33	1	9	4,710	0	0	0	1	9	4,710	0	0	0
23			Bloomington	0.87	224.01	257.15	37	1,595	410,155	0	0	0	24	1,413	391,561	13	182	18,594
24			Waconia Twp	1.17	221.03	188.74	51	3,327	627,935	0	0	0	44	3,292	623,777	7	35	4,158
25			Minneapolis	0.34	219.39	643.43	5	134	86,219	0	0	0	5	134	86,219	0	0	0

(1) Based on Jan 1-Dec 31, 2019, year-end normalized data (IEEE Op Co Level)
"Total" includes all causes, all levels
"Bulk Power Supply" includes Distribution Substation, Transmission Substation, and Transmission Line levels, all cause codes
"Unplanned" inlcudes all levels and no outages with a primary cause code of "Intentional/Planned", Includes Bulk Power Supply outages
"Planned" includes all levels and only outages with a primary cause code of "Intentional/Planned", Includes Bulk Power Supply outages

Metro West Poor Performing Feeders (2)
Based on performance Sept 2018 to Aug 2019, Major Event Days are included

	Feeder ID	Substation	City	SAIFI	SAIDI	CAIDI	Reasons for Poor Performance	Operational Changes Made, Considering or Planned
A			Mound	2.25	229.30	102.13	Total CMO = 533.1k; 258.1k (46.7%) 7/29/19 feeder outage due to tree came down outside of corridor into phases, 170.0k (30.7%) 7/15/19 feeder outage due to tree came down inside corridor slapping phases together.	Trees removed from 7/15/19 & 7/29/19 outages. Scheduled feeder trim for 2020.
B			Golden Valley	1.89	97.26	51.50	Total CMO = 138.5k; 51.3k (37.0%) 8/3/19 due to Goose Contact with Feeder, 51.1k (36.9%) 9/20/18, 10/30/18 & 5/25/19 due to tap cable failures and 4.5k (3.3%) due to Vegetation outage various taps various dates.	Swan Diverters to be added 2 spans of OH near Goose contact to be completed 5/15/2020. 4200ft of 1/0 cable being replaced causing 3 outages to be completed by 8/15/2020. Scheduled Feeder trim for 2020.
C			Maple Grove	2.17	373.97	172.70	Total CMO = 1,701.6k; 806.0k (47.4%) 9/20/18 feeder outage due to lightning arrester failure, 741.4k (43.6%) various cable failures tap level on 12/10/18, 3/2/19, 5/24/19 & 6/30/19.	Lightning arrester replaced that caused 9/20/18 feeder outage. Installed one fused single phase load break center (LBC), replaced un-fused LBC with fused for better sectionalizing have been completed. Replace approximately 1000ft of 1/0 cable and installed approximately 2500ft of new cable to loop two separate radial taps. In next 2 years scheduled to replace 2 unfused 1P LCB's and install 6 new fused LBC along with replacing one 3P fused tap withvacuum fault interrupter (VFI) for additional sectionalizing tap cables.
D			Golden Valley	1.43	185.31	129.59	Total CMO = 381.0k; 237.2k (62.3%) 9/17/18 feeder outage due to tree branch on wire inside maintenance corridor, 114.9k (30.2%) Vegetation outages various taps various dates.	Feeder last trimmed 2019.
E			Coon Rapids	2.17	450.18	207.56	Total CMO = 621.2k; 474.1k (76.3%) 7/14/19 feeder splice failure on CRL31 at time CRL33 was being carried by CRL31. With CGR33 out, no alternate feeder to switch CRL31 to.	Replaced splice that failed on 7/15/19. Feeder last trimmed 12/2017.
	Security Data Ends]							

(2) Distribution outages only, Major Event Days are included

Southeast

	Feeder ID	Substation	City	SAIFI	SAIDI	CAIDI	All levels, All Causes included — Total: Outages	Total: Customers Affected	Total: Customer Mins Out	All Causes, Distribution Substation, Transmission Substation, and Transmission Line levels — Bulk Power Supply: Outages	Bulk Power Supply: Customers Affected	Bulk Power Supply: Customer Mins Out	All levels, No "Planned" Cause Includes Bulk Power Supply — Unplanned: Outages	Unplanned: Customers Affected	Unplanned: Customer Mins Out	All levels, "Planned" Cause only Includes Bulk Power Supply — Planned: Outages	Planned: Customers Affected	Planned: Customer Mins Out
	[Security Data Begins																	
1			Pine Island	4.74	1,210.63	255.65	36	4,868	1,244,528	1	1,015	523,985	35	4,837	1,243,722	1	31	806
2			Winona	1.23	860.65	699.28	3	64	44,754	0	0	0	2	47	43,913	1	17	841
3			Pipestone	4.21	816.56	194.10	23	2,970	576,488	1	701	143,705	22	2,969	576,368	1	1	120
4			Leeds Twp	2.74	793.56	289.35	10	554	160,299	1	202	28,482	9	392	158,679	1	162	1,620
5			Pine Island	1.13	543.94	479.92	14	1,130	542,312	1	988	511,784	13	1,129	542,173	1	1	139
6			Pipestone	3.38	538.62	159.21	58	3,620	576,326	1	1,058	64,538	58	3,620	576,326	0	0	0
7			Pipestone	2.40	535.04	222.76	38	3,855	858,747	1	1,598	183,770	34	3,803	856,177	4	52	2,570
8			Waterville	2.76	468.27	169.74	40	2,574	436,900	1	927	159,444	40	2,574	436,900	0	0	0
9			Tracy	1.97	460.47	233.24	43	1,915	446,660	0	0	0	39	753	275,171	4	1,162	171,489
10			Rapidan Twp	2.87	421.42	146.72	21	1,620	237,679	0	0	0	20	1,608	236,335	1	12	1,344
11			Tracy	3.06	416.54	136.05	7	992	134,960	3	974	131,758	7	992	134,960	0	0	0
12			Kenyon Twp	2.31	410.21	177.71	10	307	54,558	0	0	0	10	307	54,558	0	0	0
13			Hartland Twp	1.20	405.33	338.87	17	555	188,073	0	0	0	15	497	184,251	2	58	3,822
14			Tracy	2.97	403.34	135.69	4	758	102,852	3	757	102,679	4	758	102,852	0	0	0
15			Waterville	1.64	401.89	245.45	38	2,384	585,155	1	1,443	248,196	34	2,172	562,742	4	212	22,413
16			Goodview	2.21	394.54	178.40	43	2,656	473,839	0	0	0	31	2,610	467,081	12	46	6,759
17			Osborne Twp	2.42	355.86	147.16	6	133	19,572	0	0	0	4	58	9,307	2	75	10,265
18			Faribault	1.84	336.90	182.88	26	1,354	247,620	0	0	0	25	1,353	247,506	1	1	114
19			Waseca	1.68	324.29	192.75	128	3,878	747,484	0	0	0	82	2,914	629,496	46	964	117,988
20			Mazeppa	2.58	317.06	122.80	34	1,655	203,236	1	637	43,953	34	1,655	203,236	0	0	0
21			Osborne Twp	1.15	316.00	274.85	8	768	211,088	0	0	0	8	768	211,088	0	0	0
22			Woodville Twp	1.48	312.87	210.94	40	884	186,471	0	0	0	39	883	186,426	1	1	45
23			Lake City	1.29	307.70	237.77	19	242	57,539	0	0	0	18	101	51,476	1	141	6,063
24			Mount Vernon Twp	1.28	297.19	232.76	31	1,250	290,950	0	0	0	27	1,237	290,387	4	13	563
25			Rock Lake Twp	1.54	284.97	185.51	12	808	149,894	0	0	0	11	807	149,451	1	1	443

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Southeast Poor Performing Feeders (2)
Based on performance Sept 2018 to Aug 2019, Major Event Days are included

	Feeder ID	Substation	City	SAIFI	SAIDI	CAIDI	Reasons for Poor Performance	Operational Changes Made, Considering or Planned
A			Morristown	2.54	3,076.42	1211.31	Total CMO = 3,676.3; 3,411.3k (92.8%) outage due to Tornados 9/20/18-9/22/18, 166.2k (4.5%) outage due to Tree took wire down in High Wind on 9/17/18.	Feeder last trimmed 3/2018.
B			Hartland	3.11	3,394.60	1090.62	Total CMO = 1,598.9k; 1,288.5 (80.6%) due to Ice on 4/11/19, 176.2 (11.0%) due to new pole tipped in Saturated ground for new Solar on 5/22/19, 118.2k (7.4%) due to tree on feeder 7/22/19.	Feeder last trimmed 12/2019.
C			Nerstrand	1.91	1,889.78	989.22	Total CMO = 927.9k; 868.6k (93.6%) due to Tornado on 9/20/18.	Feeder scheduled trimmed in 2019.
D			Cannonn Falls	1.06	2,629.57	2481.43	Total CMO = 1,057.1k; 1,054.3k (99.7%) due to Tornado on 9/20/18.	Feeder last trimmed 8/2016, future feeder trim scheduled for 2021.
E			Northfield	0.37	583.23	1580.54	Total CMO = 1,422.5k; 1,340.8k (94.3%) due to Tornado on 9/20/18.	Feeder last trimmed 11/2018.
	Security Data Ends]							

(2) Distribution outages only, Major Event Days are included

						All levels, All Causes included			All Causes, Distribution Substation, Transmission Substation, and Transmission Line levels			All levels, No "Planned" Cause Includes Bulk Power Supply			All levels, "Planned" Cause only Includes Bulk Power Supply		
Northwest						**Total**			**Bulk Power Supply**			**Unplanned**			**Planned**		
	Feeder ID	Substation	City	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			Lucas Twp	2.70	579.06	214.11	36	1,263	270,423	0	0	0	34	1,194	268,779	2	69	1,644
2			Sacred Heart	3.66	551.00	150.64	23	1,240	186,789	0	0	0	21	1,235	185,678	2	5	1,111
3			Lucas Twp	4.09	527.03	128.97	17	3,404	439,012	0	0	0	14	2,516	282,092	3	888	156,920
4			Brownton	3.06	391.43	128.10	7	165	21,137	1	54	6,102	7	165	21,137	0	0	0
5			Granite Falls	3.44	346.93	100.83	28	2,030	204,690	0	0	0	28	2,030	204,690	0	0	0
6			Flowing Twp	2.30	322.48	140.11	38	1,809	253,468	1	780	91,260	37	1,808	253,459	1	1	9
7			Howard Lake	1.15	316.70	274.97	10	1,146	315,120	1	995	302,480	10	1,146	315,120	0	0	0
8			Stewart	2.43	268.96	110.56	9	832	91,984	1	330	24,090	9	832	91,984	0	0	0
9			Clara City	3.02	245.48	81.40	46	2,657	216,271	1	871	42,679	38	887	138,677	8	1,770	77,594
10			Avon	3.02	241.53	79.97	36	4,503	360,121	2	2,871	206,541	32	4,476	358,534	4	27	1,587
11			Woodland Twp	1.06	240.75	227.36	34	2,050	466,089	1	1,926	448,758	34	2,050	466,089	0	0	0
12			Saint Cloud	3.14	235.24	74.85	22	7,703	576,578	0	0	0	22	7,703	576,578	0	0	0
13			Waverly	0.97	224.03	231.06	7	1,083	250,241	1	1,066	248,378	7	1,083	250,241	0	0	0
14			Rogers	1.29	222.27	172.40	48	5,633	971,101	0	0	0	48	5,633	971,101	0	0	0
15			Clara City	2.05	202.67	98.96	13	1,575	155,856	2	1,540	150,920	12	805	118,126	1	770	37,730
16			Saint Cloud	0.89	199.45	225.11	5	513	115,481	0	0	0	5	513	115,481	0	0	0
17			Saint Cloud	1.05	188.84	180.14	42	5,165	930,406	0	0	0	41	5,162	930,292	1	3	114
18			Wakefield Twp	1.09	181.96	166.93	3	121	20,198	1	110	19,360	3	121	20,198	0	0	0
19			Saint Joseph Twp	3.14	181.38	57.77	11	1,441	83,253	2	907	65,930	10	985	79,149	1	456	4,104
20			Saint Joseph	2.14	171.41	80.16	5	1,591	127,529	2	1,510	108,555	5	1,591	127,529	0	0	0
21			Fargo	1.11	167.75	151.35	31	2,833	428,777	0	0	0	27	2,569	391,991	4	264	36,786
22			Sacred Heart	1.02	157.81	154.88	3	324	50,182	1	322	49,910	3	324	50,182	0	0	0
23			Becker	0.98	155.49	158.77	25	237	37,629	0	0	0	18	146	29,295	7	91	8,334
24			Saint Cloud	1.89	152.80	80.75	10	2,655	214,383	1	1,198	119,800	9	1,428	150,674	1	1,227	63,709
25			Saint Joseph Twp	0.78	148.37	189.80	17	462	87,688	0	0	0	12	332	79,529	5	130	8,159

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Northwest Poor Performing Feeders (2)
Based on performance Sept 2018 to Aug 2019, Major Event Days are included

	Feeder ID	Substation	City	SAIFI	SAIDI	CAIDI	Reasons for Poor Performance	Operational Changes Made, Considering or Planned
A			St Cloud	1.07	193.51	180.20	Total CMO = 932.4k; 862.3k (92.5%) 4/7/19 outage due to lightning strike, caused feeder lock out.	On 4/7/19 replace failed cutout and lightning arrester due to lightning strike. Scheduled feeder trimmed in 2019.
B			Morgan	1.25	391.34	312.21	Total CMO = 424.6k; 338.3k (79.7%) 4/11/19 feeder outage from conductor contact due to galloping wires. Icing weather conditions.	Feeder last trimmed 12/2017.
C			Brownton	2.72	537.04	197.28	Total CMO = 29.0k; 11.6k (40.0%) 6/4/19 & 6/27/19 tap outages to vegetation outside of corridor, 8.7k (30.0%) 4/11/19 & 6/4/19 outages due to broken poles in wind rain & lightning.	3 Poles replace each on 4/11/19 & 6/4/19. Feeder last trimmed 6/2019. 4kV feeder with 58 customers.
D			St Cloud	2.09	151.47	72.59	Total CMO = 370.8k; 231.4k (62.4%) 5/19/19 feeder outage due to vegetation inside of corridor fell on OH wire, 4/25/19 feeder outage due to broken insulator on X-arm.	4/24/19 replace cross-arm with new insulators. Scheduled feeder trim in 2020.
E			Sacred Heart	4.18	818.09	195.58	Total CMO = 277.3k; 81.3k (29.3%) 10/3/18 feeder outage due to tree on feeder outside of corridor during wind, 80.2k (28.9%) 1/31/19 feeder outage due to bolted connector failure at dead-end X-arm, 52.7k (19.0%) 2/1/19 Double circuit transmission line fell into distribution feeder due to extreme cold. Feeder last trimmed 9/2019.	1/31/19 Replace failed dead-end connection at cross-arm. 2/1/19 Repaired transmission line. Feeder last trimmed 9/2019. Re-building approximately 6 miles including replacing poles and equipment as needed.
	Security Data Ends]							

(2) Distribution outages only, Major Event Days are included

Line	Begin Date	Begin Time	Duration Hrs	Duration Mins	Cause	Comments	Remedial Action
[PROTECTED DATA BEGINS							
	1/1/2019	20:44	2	10	Lines	Failed Splice	Replace slice and validate condition of adjacent splices.
	1/7/2019	16:55	2	35	Equipment	Arrestor Failure	Replaced
	2/1/2019	7:06	2	31	Lines	Failed Conductor	Splice conductor and validate condition of adjacent phases
	2/2/2019	22:28	2	40	Lines	Failed Cross Arm	Replaced
	2/3/2019	21:21	0	37	Lines	Failed Conductor	Splice conductor and validate condition of adjacent phases
	2/7/2019	21:32	15	12	Unknown	Unknown	Patrolled circuit
	2/7/2019	15:36	18	13	Lines	Failed Insulator	Replaced
	2/12/2019	11:59	6	16	External	Foreign Equipment	Foreign repairs made
	2/20/2019	12:20	54	49	Equipment	Failed Cicuit Transformer	Replaced
	2/22/2019	11:23	3	24	Equipment	Failed Arrestor	Replaced
	3/9/2019	11:25	2	57	Equipment	Broken lead on line Pot.	Repair
	3/11/2019	14:41	0	12	Lines	Pin failure	Replaced hardware and inspected adjacent component
	3/21/2019	14:42	0	47	External	Foreign structure damaged by flooding on the Minnesota River.	Foreign repairs made

	4/10/2019	23:13	0	25	Winter storm	Potential Ice Shedding/Galloping	Patrol circuit. Evaluate circuit for potential future mitigation project.
	4/10/2019	23:12	0	11	Winter storm	Potential Ice Shedding/Galloping	Patrol circuit. Evaluate circuit for potential future mitigation project.
	4/10/2019	22:49	15	47	Winter storm	Potential Ice Shedding/Galloping	Patrol circuit. Evaluate circuit for potential future mitigation project.
	4/10/2019	22:32	0	07	Winter storm	Potential Ice Shedding/Galloping	Patrol circuit. Evaluate circuit for potential future mitigation project.
	4/10/2019	17:41	0	13	Winter storm	Potential Ice Shedding/Galloping	Patrol circuit. Evaluate circuit for potential future mitigation project.
	4/10/2019	17:35	21	05	Winter storm	Potential Ice Shedding/Galloping	Patrol circuit. Evaluate circuit for potential future mitigation project.
	4/10/2019	15:10	0	46	Winter storm	Potential Ice Shedding/Galloping	Patrol circuit. Evaluate circuit for potential future mitigation project.
	4/11/2019	9:23	1	42	Winter storm	Potential Ice Shedding/Galloping	Patrol circuit. Evaluate circuit for potential future mitigation project.
	4/11/2019	9:22	2	53	Winter storm	Potential Ice Shedding/Galloping	Patrol circuit. Evaluate circuit for potential future mitigation project.
	4/11/2019	9:08	0	12	Winter storm	Potential Ice Shedding/Galloping	Patrol circuit. Evaluate circuit for potential future mitigation project.
	4/11/2019	7:59	2	27	Winter storm	Potential Ice Shedding/Galloping	Patrol circuit. Evaluate circuit for potential future mitigation project.

	4/11/2019	5:53	44	46	Winter storm	Potential Ice Shedding/Galloping	Patrol circuit. Evaluate circuit for potential future mitigation project.
	4/11/2019	5:19	0	13	Winter storm	Potential Ice Shedding/Galloping	Patrol circuit. Evaluate circuit for potential future mitigation project.
	4/11/2019	5:09	0	08	Winter storm	Potential Ice Shedding/Galloping	Patrol circuit. Evaluate circuit for potential future mitigation project.
	4/11/2019	3:59	18	43	Winter storm	Potential Ice Shedding/Galloping	Patrol circuit. Evaluate circuit for potential future mitigation project.
	4/11/2019	3:44	0	12	Winter storm	Potential Ice Shedding/Galloping	Patrol circuit. Evaluate circuit for potential future mitigation project.
	4/11/2019	3:42	0	27	Winter storm	Potential Ice Shedding/Galloping	Patrol circuit. Evaluate circuit for potential future mitigation project.
	4/11/2019	3:41	0	15	Winter storm	Potential Ice Shedding/Galloping	Patrol circuit. Evaluate circuit for potential future mitigation project.
	4/11/2019	3:29	0	05	Winter storm	Potential Ice Shedding/Galloping	Patrol circuit. Evaluate circuit for potential future mitigation project.
	4/11/2019	3:18	0	58	Winter storm	Potential Ice Shedding/Galloping	Patrol circuit. Evaluate circuit for potential future mitigation project.
	4/11/2019	2:19	16	21	Winter storm	Potential Ice Shedding/Galloping	Patrol circuit. Evaluate circuit for potential future mitigation project.
	4/11/2019	0:39	1	53	Winter storm	Potential Ice Shedding/Galloping	Patrol circuit. Evaluate circuit for potential future mitigation project.

	4/18/2019	2:25	2	09	Equipment	Potential Miss Operation	System protection reviewed and modified, if applicable
	4/28/2019	17:36	0	14	Winter storm	Structure damaged due to flooding	Replaced
	5/14/2019	13:44	2	20	Unknown	Unknown	Circuit patrolled and line re-energized.
	5/27/2019	7:45	0	15	Lines	Failed Structure	Structure replaced
	5/28/2019	18:09	16	23	Vegetation	Tree on Line	Remove tree and inspect conductor for damage
	6/27/2019	8:46	1	53	Vegetation	Tree on Line	Remove and validate condition of asset.
	6/30/2019	17:58	2	21	Other	Balloon in line	Remove
	7/3/2019	18:32	1	11	Winter storm	Structure down	Repairs made and line re-energized
	7/20/2019	8:38	4	21	Lightning Only	Lightning strike	Strike location inspected and line re-energized
	7/27/2019	0:53	1	03	External	Foreign Structures Down	Foreign repairs made
	8/15/2019	21:09	0	52	Equipment	Switch Motor Operator Failure	Replace motor operator
	8/17/2019	22:50	11	54	Unknown	Unknown	Circuit patrolled and line re-energized.
	9/12/2019	13:26	0	08	Unknown	Unknown	Circuit patrolled and line re-energized.
	9/13/2019	13:05	0	40	Equipment	Disconnect failure	Repair
	9/15/2019	20:54	1	04	Equipment	Failed Arrestor	Repaired
	9/17/2019	7:41	1	37	Equipment	Lightning strike	Strike location inspected and line re-energized
	9/24/2019	19:48	1	11	Winter storm	Storms in the area	Circuit patrolled and line re-energized.
	9/24/2019	19:46	1	19	Winter storm	Storms in the area	Circuit patrolled and line re-energized.

	9/24/2019	19:39	1	30	Winter storm	Storms in the area	Circuit patrolled and line re-energized.
	10/6/2019	21:59	5	56	External	Distribution Feeder fault	System protection scheme modified by foreign
	10/10/2019	6:28	1	02	External	Distribution Feeder fault	System protection scheme modified by foreign
	10/11/2019	18:28	2	06	Equipment	Broken Jumper	Repair
	11/9/2019	21:12	2	52	External	Failed conductor on foreign line	Foreign repairs made
	11/17/2019	3:53	3	08	Line	Failed Structures	Structures replaced
	11/18/2019	16:22	5	22	External	Vehicle damage to structure	Structure replaced
	12/21/2019	17:15	2	30	Equipment	Possible single phasing	Patrol circuit. Evaluate circuit for potential future mitigation project.
	12/30/2019	15:22	1	10	Winter storm	Potential Ice Shedding/Galloping	Patrol circuit. Evaluate circuit for potential future mitigation project.
	12/30/2019	13:25	17	25	Winter storm	Potential Ice Shedding/Galloping	Patrol circuit. Evaluate circuit for potential future mitigation project.

PROTECTED DATA ENDS]

	Feeder	Primary Event #	Begin Time	Completion Time	Duration Min.	Customers Out	Region	Email sent to CAO
JANUARY = 18 total qualifying events, 0 events with no email								
	[PROTECTED DATA BEGINS							
1		1642045	01/01/19 20:44	01/01/19 22:53	129	1,434	Northwest	x
2		1642049	01/01/19 20:44	01/01/19 22:54	130	747	Northwest	x
3		1642355	01/03/19 05:55	01/03/19 14:50	535	1,494	Metro East	x
4		1643202	01/07/19 15:43	01/07/19 22:56	433	976	Metro East	x
5		1646537	01/25/19 09:36	01/25/19 10:50	74	733	Metro West	x
6		1647724	01/26/19 02:00	01/26/19 07:04	304	995	Northwest	x
7		1646666	01/26/19 02:00	01/26/19 05:53	233	1,926	Northwest	x
8		1646663	01/26/19 02:00	01/26/19 05:53	233	1,066	Northwest	x
9		1646944	01/27/19 13:28	01/27/19 14:43	75	1,136	Metro West	x
10		1647029	01/27/19 18:28	01/27/19 21:34	186	3,047	Metro East	x
11		1647415	01/28/19 16:57	01/28/19 18:23	86	1,689	Metro East	x
12		1647842	01/29/19 17:40	01/29/19 19:00	80	2,395	Metro West	x
13		1647834	01/29/19 17:40	01/29/19 21:30	230	1,649	Metro West	x
14		1647846	01/29/19 17:40	01/29/19 22:11	271	978	Metro West	x
15		1648086	01/29/19 19:10	01/29/19 20:16	66	1,472	Metro West	x
16		1648290	01/29/19 20:24	01/29/19 21:48	84	1,274	Metro East	x
17		1648629	01/30/19 00:01	01/30/19 01:15	74	1,473	Metro West	x
18		1649776	01/31/19 17:43	02/01/19 02:57	554	1,612	Southeast	x
FEBRUARY = 8 total qualifying events, 0 events with no email								
1		1650555	02/04/19 00:58	02/04/19 02:33	95	1,286	Metro West	x
2		1650575	02/04/19 02:16	02/04/19 03:33	77	1,068	Metro West	x
3		1652040	02/11/19 12:32	02/11/19 13:33	61	1,611	Metro East	x
4		1652831	02/15/19 01:51	02/15/19 05:05	194	973	Southeast	x
5		1653084	02/17/19 06:58	02/17/19 11:03	245	1,433	Northwest	x
6		1654329	02/24/19 05:09	02/24/19 06:44	95	945	Metro West	x
7		1654346	02/24/19 05:24	02/24/19 07:25	121	1,686	Metro West	x
8		1654698	02/25/19 09:53	02/25/19 12:20	147	570	Southeast	x
MARCH = 7 total qualifying events, 0 events with no email								
1		1656993	03/08/19 12:47	03/08/19 13:49	62	1,055	Northwest	x
2		1661577	03/14/19 04:57	03/14/19 06:35	98	819	Southeast	x
3		1663036	03/15/19 00:59	03/15/19 02:17	78	3,939	Metro East	x
4		1663295	03/15/19 10:06	03/15/19 11:06	60	3,391	Metro East	x
5		1666441	03/24/19 07:08	03/24/19 08:21	73	2,081	Metro West	x
6		1667096	03/27/19 05:55	03/27/19 07:11	76	2,384	Southeast	x
7		1668093	03/30/19 18:12	03/30/19 21:22	190	1,430	Northwest	x
APRIL = 28 total qualifying events, 0 events with no email								
1		1669816	04/06/19 19:04	04/06/19 21:11	127	1,882	Southeast	x
2		1669864	04/07/19 00:58	04/07/19 03:58	180	4,787	Northwest	x
3		1670575	04/08/19 15:40	04/08/19 16:47	67	1,882	Metro West	x
4		1672141	04/10/19 22:25	04/10/19 23:40	75	1,348	Southeast	x
5		1672246	04/10/19 23:13	04/11/19 01:57	164	593	Southeast	x
6		1672411	04/11/19 00:39	04/11/19 02:32	113	1,006	Southeast	x
7		1676757	04/11/19 01:30	04/11/19 11:54	624	563	Southeast	x
8		1672900	04/11/19 04:44	04/11/19 10:18	334	577	Southeast	x
9		1672931	04/11/19 04:47	04/11/19 05:53	66	1,511	Metro West	x

	Feeder	Primary Event #	Begin Time	Completion Time	Duration Min.	Customers Out	Region	Email sent to CAO
10		1673325	04/11/19 06:45	04/12/19 21:15	2,310	1,018	Southeast	x
11		1673832	04/11/19 08:52	04/11/19 10:32	100	1,263	Northwest	x
12		1674088	04/11/19 09:23	04/11/19 11:05	102	1,020	Southeast	x
13		1674086	04/11/19 09:23	04/11/19 11:05	102	990	Southeast	x
14		1674565	04/11/19 11:51	04/11/19 16:14	263	826	Northwest	x
15		1674745	04/11/19 12:13	04/11/19 17:00	287	518	Metro East	x
16		1674738	04/11/19 12:14	04/11/19 13:43	89	1,917	Southeast	x
17		1674744	04/11/19 12:14	04/11/19 13:43	89	1,367	Southeast	x
18		1674931	04/11/19 12:46	04/11/19 14:10	84	2,296	Metro West	x
19		1674993	04/11/19 13:00	04/11/19 18:30	330	1,025	Northwest	x
20		1675815	04/11/19 16:41	04/12/19 04:05	684	1,706	Metro East	x
21		1677360	04/13/19 13:46	04/13/19 16:06	140	2,606	Southeast	x
22		1678271	04/16/19 20:56	04/16/19 22:01	65	1,761	Metro West	x
23		1678376	04/17/19 11:17	04/17/19 12:58	101	1,438	Metro West	x
24		1679157	04/18/19 22:07	04/18/19 23:50	103	2,375	Southeast	x
25		1679511	04/20/19 20:41	04/20/19 22:20	99	3,194	Metro East	x
26		1680177	04/22/19 18:48	04/22/19 20:01	73	3,228	Metro West	x
27		1680274	04/22/19 23:28	04/23/19 03:25	237	1,886	Southeast	x
28		1681172	04/25/19 21:39	04/26/19 11:15	816	1,326	Metro East	x
MAY = 20 total qualifying events, 1 event with no email								
1		1684069	05/03/19 21:25	05/03/19 22:47	82	2,160	Metro West	x
2		1684640	05/06/19 11:41	05/06/19 13:38	117	1,020	Southeast	x
3		1686517	05/11/19 10:05	05/11/19 11:08	63	3,128	Metro East	x
4		1687176	05/14/19 01:48	05/14/19 02:59	71	2,781	Metro West	x
5		1687331	05/14/19 13:44	05/14/19 16:11	147	770	Northwest	x
6		1687861	05/16/19 04:33	05/16/19 06:50	137	1,412	Metro East	x
7		1689232	05/19/19 15:29	05/19/19 16:34	65	1,178	Metro East	x
8		1689233	05/19/19 15:33	05/19/19 18:46	193	2,443	Northwest	x
9		1689334	05/19/19 17:16	05/19/19 18:45	89	2,482	Metro East	
10		1690172	05/20/19 19:45	05/21/19 17:52	1,328	600	Metro East	x
11		1690208	05/20/19 20:46	05/20/19 22:43	117	6,069	Metro East	x
12		1691029	05/21/19 21:26	05/22/19 01:14	228	1,236	Metro West	x
13		1691027	05/21/19 21:26	05/22/19 01:14	228	672	Metro West	x
14		1692401	05/23/19 13:52	05/23/19 15:24	92	594	Northwest	x
15		1693660	05/26/19 11:07	05/26/19 16:44	337	719	Southeast	x
16		1694242	05/27/19 13:47	05/27/19 16:29	162	2,248	Metro West	x
17		1694341	05/27/19 14:54	05/27/19 16:02	68	1,877	Metro East	x
18		1695537	05/30/19 08:53	05/30/19 10:08	75	565	Metro East	x
19		1695543	05/30/19 08:53	05/30/19 09:54	61	752	Metro East	x
20		1696918	05/31/19 22:24	05/31/19 23:52	88	4,208	Metro East	x
JUNE = 23 total qualifying events, 1 event with no email								
1		1697614	06/02/19 03:06	06/02/19 12:10	544	512	Metro West	x
2		1698598	06/04/19 15:41	06/04/19 20:06	265	1,655	Metro West	x
3		1698659	06/04/19 16:04	06/04/19 17:49	105	1,554	Metro East	x
4		1698751	06/04/19 16:32	06/04/19 19:35	183	544	Metro West	
5		1698794	06/04/19 17:02	06/04/19 21:41	279	1,413	Metro East	x
6		1698821	06/04/19 17:12	06/04/19 21:21	249	2,123	Metro East	x
7		1699018	06/04/19 18:47	06/04/19 20:20	93	1,457	Metro East	x

	Feeder	Primary Event #	Begin Time	Completion Time	Duration Min.	Customers Out	Region	Email sent to CAO
8		1699203	06/04/19 20:17	06/04/19 21:24	67	1,486	Metro West	x
9		1701190	06/09/19 05:09	06/09/19 06:30	81	1,513	Metro West	x
10		1703010	06/12/19 20:04	06/12/19 21:56	112	638	Southeast	x
11		1703767	06/14/19 19:57	06/14/19 21:05	68	1,337	Metro East	x
12		1704062	06/15/19 15:59	06/15/19 19:00	181	826	Northwest	x
13		1704457	06/16/19 22:13	06/16/19 23:24	71	2,474	Metro West	x
14		1706876	06/23/19 05:47	06/23/19 20:52	905	1,728	Metro West	x
15		1706896	06/23/19 06:13	06/23/19 07:39	86	1,731	Metro West	x
16		1706924	06/23/19 07:07	06/23/19 08:36	89	684	Metro West	x
17		1707106	06/23/19 16:29	06/23/19 19:40	191	1,020	Southeast	x
18		1707389	06/23/19 18:55	06/23/19 20:30	95	5,027	Metro East	x
19		1707654	06/23/19 23:11	06/24/19 03:16	245	503	Metro East	x
20		1709550	06/27/19 11:03	06/27/19 12:21	78	1,372	Metro West	x
21		1711350	06/30/19 07:08	06/30/19 08:36	88	1,788	Metro East	x
22		1711682	06/30/19 07:38	06/30/19 08:45	67	1,237	Metro West	x
23		1713202	06/30/19 23:28	07/01/19 01:16	108	2,976	Metro West	x
JULY = 42 total qualifying events, 2 events with no email								
1		1713297	07/01/19 00:20	07/01/19 02:35	135	2,843	Metro West	x
2		1713360	07/01/19 01:26	07/01/19 04:20	174	826	Northwest	x
3		1714953	07/02/19 20:41	07/03/19 05:40	539	2,248	Metro West	x
4		1717868	07/09/19 00:25	07/09/19 01:30	65	2,904	Metro East	x
5		1717891	07/09/19 03:21	07/09/19 04:40	79	1,300	Southeast	x
6		1719567	07/12/19 12:58	07/12/19 14:10	72	1,292	Metro West	x
7		1719911	07/12/19 20:59	07/13/19 00:13	194	2,812	Metro West	x
8		1720410	07/14/19 14:32	07/14/19 15:34	62	910	Metro East	x
9		1720559	07/14/19 17:51	07/14/19 19:50	119	595	Northwest	x
10		1720814	07/14/19 19:20	07/14/19 22:03	163	1,960	Metro West	x
11		1726473	07/14/19 20:00	07/15/19 02:20	380	2,854	Metro West	x
12		1720725	07/14/19 20:00	07/15/19 04:04	484	2,064	Metro West	x
13		1720856	07/14/19 21:34	07/15/19 03:23	349	2,338	Metro East	x
14		1721128	07/15/19 03:40	07/15/19 04:53	73	2,329	Metro West	x
15		1721806	07/15/19 16:28	07/15/19 18:39	131	1,073	Northwest	x
16		1722093	07/15/19 17:50	07/16/19 15:30	1,300	641	Metro East	x
17		1722118	07/15/19 17:53	07/15/19 21:44	231	1,322	Metro East	x
18		1722123	07/15/19 17:54	07/16/19 15:52	1,318	2,037	Metro East	x
19		1722223	07/15/19 17:54	07/16/19 14:25	1,231	3,242	Metro East	x
20		1722143	07/15/19 17:55	07/15/19 19:19	84	1,884	Metro East	x
21		1722334	07/15/19 18:02	07/16/19 15:18	1,276	2,726	Metro East	x
22		1722426	07/15/19 18:06	07/15/19 19:37	91	2,362	Metro East	x
23		1722554	07/15/19 18:07	07/15/19 21:32	205	6,339	Metro East	x
24		1723345	07/15/19 19:47	07/15/19 20:56	69	1,581	Metro West	x
25		1725126	07/16/19 13:06	07/16/19 14:32	86	2,058	Metro East	x
26		1725355	07/16/19 15:49	07/16/19 16:53	64	612	Metro East	x
27		1725411	07/16/19 16:37	07/16/19 18:12	95	1,443	Metro West	x
28		1725439	07/16/19 16:51	07/16/19 17:58	67	1,217	Metro West	x

	Feeder	Primary Event #	Begin Time	Completion Time	Duration Min.	Customers Out	Region	Email sent to CAO
29		1727038	07/19/19 04:18	07/19/19 06:14	116	1,370	Southeast	x
30		1729228	07/20/19 08:38	07/20/19 10:15	97	1,019	Southeast	
31		1729232	07/20/19 08:38	07/20/19 10:15	97	988	Southeast	
32		1730053	07/20/19 10:25	07/20/19 14:12	227	1,008	Southeast	x
33		1730775	07/20/19 12:20	07/20/19 13:37	77	783	Metro East	x
34		1732909	07/22/19 01:22	07/22/19 02:31	69	1,956	Metro East	x
35		1733382	07/22/19 18:11	07/22/19 19:49	98	3,888	Metro West	x
36		1733906	07/23/19 17:19	07/23/19 18:51	92	1,801	Metro East	x
37		1734125	07/24/19 03:51	07/24/19 05:40	109	3,181	Metro West	x
38		1735164	07/25/19 21:42	07/25/19 23:33	111	1,227	Northwest	x
39		1736218	07/28/19 15:47	07/28/19 22:34	407	561	Metro West	x
40		1736516	07/29/19 02:49	07/29/19 04:40	111	2,325	Metro West	x
41		1736558	07/29/19 05:58	07/29/19 07:38	100	582	Southeast	x
42		1736581	07/29/19 07:08	07/29/19 08:22	74	2,729	Metro West	x
AUGUST = 8 total qualifying events, 0 events with no email								
1		1738783	08/03/19 09:27	08/03/19 13:15	228	813	Metro East	x
2		1743172	08/09/19 10:16	08/09/19 11:20	64	574	Metro East	x
3		1743722	08/13/19 17:02	08/13/19 20:50	228	3,020	Metro East	x
4		1744460	08/14/19 22:19	08/15/19 00:46	147	1,018	Southeast	x
5		1746085	08/18/19 01:16	08/18/19 05:43	267	853	Southeast	x
6		1746867	08/19/19 12:09	08/19/19 14:25	136	774	Northwest	x
7		1747365	08/20/19 10:31	08/20/19 11:34	63	2,537	Metro East	x
8		1747382	08/20/19 10:34	08/20/19 13:49	195	2,185	Metro East	x
SEPTEMBER = 31 total qualifying events, 0 events with no email								
1		1753510	09/02/19 21:15	09/03/19 00:55	220	2,036	Northwest	x
2		1753741	09/02/19 22:22	09/03/19 01:19	177	2,995	Metro East	x
3		1753768	09/02/19 22:23	09/03/19 00:32	129	2,451	Metro West	x
4		1753896	09/02/19 22:27	09/03/19 04:03	336	1,062	Metro East	x
5		1753934	09/02/19 22:31	09/03/19 03:45	314	1,716	Metro East	x
6		1753997	09/02/19 22:34	09/03/19 01:00	146	1,888	Metro East	x
7		1754865	09/03/19 00:56	09/03/19 02:25	89	609	Metro East	x
8		1757144	09/05/19 20:01	09/06/19 02:31	390	1,045	Metro West	x
9		1757502	09/06/19 14:49	09/06/19 20:41	352	3,127	Metro West	x
10		1759735	09/11/19 05:21	09/11/19 10:51	330	1,385	Metro West	x
11		1763976	09/15/19 00:54	09/15/19 02:08	74	1,248	Metro West	x
12		1765022	09/17/19 07:41	09/17/19 09:17	96	1,249	Northwest	x
13		1765021	09/17/19 07:41	09/17/19 09:19	98	3,550	Northwest	x
14		1765026	09/17/19 07:41	09/17/19 09:21	100	1,198	Northwest	x
15		1765023	09/17/19 07:41	09/17/19 09:19	98	2,357	Northwest	x
16		1765448	09/17/19 17:28	09/17/19 19:05	97	3,957	Metro West	x
17		1765764	09/18/19 05:49	09/18/19 09:29	220	2,038	Northwest	x
18		1765791	09/18/19 06:13	09/18/19 09:11	178	1,300	Metro West	x
19		1767323	09/21/19 03:48	09/21/19 05:02	74	1,601	Metro West	x
20		1768805	09/24/19 19:46	09/24/19 21:05	79	568	Southeast	x
21		1768818	09/24/19 19:50	09/24/19 20:59	69	637	Southeast	x
22		1768807	09/24/19 19:50	09/25/19 04:25	515	595	Southeast	x

	Feeder	Primary Event #	Begin Time	Completion Time	Duration Min.	Customers Out	Region	Email sent to CAO
23		1768824	09/24/19 19:50	09/25/19 04:28	518	1,408	Southeast	x
24		1768819	09/24/19 19:50	09/24/19 20:59	69	755	Southeast	x
25		1769012	09/24/19 20:27	09/24/19 23:06	159	2,689	Metro East	x
26		1769105	09/24/19 20:48	09/25/19 06:03	555	1,208	Southeast	x
27		1769462	09/25/19 05:14	09/25/19 06:39	85	3,071	Southeast	x
28		1771120	09/29/19 08:37	09/29/19 10:58	141	2,317	Metro West	x
29		1771288	09/29/19 22:36	09/29/19 23:47	71	2,078	Metro West	x
30		1771310	09/29/19 22:47	09/30/19 00:32	105	907	Metro West	x
31		1771300	09/29/19 22:48	09/30/19 04:06	318	3,206	Metro West	x
OCTOBER = 15 total qualifying events, 1 event with no email								
1		1773261	10/02/19 22:52	10/03/19 00:13	81	1,868	Metro West	
2		1773813	10/04/19 10:41	10/04/19 11:50	69	825	Northwest	x
3		1775215	10/06/19 21:59	10/07/19 06:20	501	1,415	Metro West	x
4		1775211	10/06/19 21:59	10/07/19 01:46	227	1,225	Metro West	x
5		1776027	10/08/19 14:45	10/08/19 15:56	71	3,285	Metro West	x
6		1776804	10/10/19 06:28	10/10/19 07:30	62	1,415	Metro West	x
7		1776993	10/10/19 06:28	10/10/19 07:30	62	1,222	Metro West	x
8		1777234	10/11/19 01:17	10/11/19 08:04	407	1,377	Metro West	x
9		1779097	10/15/19 11:10	10/15/19 12:11	61	863	Metro West	x
10		1780029	10/18/19 15:18	10/18/19 17:22	124	559	Southeast	x
11		1780725	10/21/19 06:41	10/21/19 09:22	161	559	Southeast	x
12		1781140	10/21/19 22:12	10/22/19 01:08	176	824	Northwest	x
13		1782110	10/24/19 14:50	10/24/19 16:25	95	921	Metro East	x
14		1783477	10/29/19 15:24	10/29/19 16:57	93	2,480	Metro East	x
15		1783912	10/31/19 01:39	10/31/19 03:30	111	862	Metro East	x
NOVEMBER = 10 total qualifying events, 0 events with no email								
1		1793440	11/30/19 06:44	11/30/19 11:45	301	981	Southeast	x
2		1795115	11/17/19 03:53	11/17/19 05:37	104	1,573	Metro West	x
3		1793318	11/30/19 02:16	11/30/19 16:58	882	1,881	Metro East	x
4		1789397	11/18/19 16:22	11/18/19 17:26	64	1,241	Metro West	x
5		1789395	11/18/19 16:22	11/18/19 17:26	64	675	Metro West	x
7		1786562	11/09/19 21:12	11/10/19 00:04	172	927	Southeast	x
8		1786561	11/09/19 21:12	11/10/19 00:04	172	1,443	Southeast	x
9		1786565	11/09/19 21:12	11/10/19 00:04	172	546	Southeast	x
10		1787887	11/13/19 11:25	11/13/19 13:05	100	5,680	Northwest	x
DECEMBER = 4 total qualifying events, 0 events with no email								
1		1794595	12/01/19 10:23	12/01/19 11:53	90	1,608	Southeast	x
2		1796109	12/07/19 23:45	12/08/19 04:28	283	4,348	Northwest	x
3		1800346	12/28/19 13:21	12/28/19 14:40	79	869	Metro East	x
4		1801089	12/30/19 19:51	12/31/19 03:45	474	1,072	Metro West	x

PROTECTED DATA ENDS]

Minnesota - MAIFI	January	February	March	April	May	June	July	August	September	October	November	December	YTD
2019 With Storms, All Levels, All Causes	0.03	0.04	0.06	0.11	0.09	0.08	0.10	0.06	0.14	0.06	0.04	0.01	0.82
Tariff Normalized, IEEE Region No Trans Line, All Ca	0.02	0.01	0.06	0.07	0.07	0.06	0.07	0.05	0.09	0.06	0.02	0.01	0.60
Annual Normalized, IEEE Region All Levels, All Caus	0.03	0.04	0.06	0.08	0.09	0.08	0.09	0.06	0.12	0.06	0.04	0.01	0.77
CES Cust Served													
2018 With Storms, All Levels, All Causes	0.01	0.04	0.03	0.09	0.13	0.08	0.09	0.10	0.10	0.05	0.03	0.01	0.77
Tariff Normalized, IEEE Region No Trans Line, All Ca	0.01	0.04	0.03	0.06	0.12	0.07	0.08	0.07	0.08	0.05	0.02	0.01	0.63
Annual Normalized, IEEE Region All Levels, All Caus	0.01	0.04	0.03	0.08	0.13	0.08	0.09	0.10	0.10	0.05	0.03	0.01	0.75
CES Cust Served													
2017 With Storms, All Levels, All Causes	0.04	0.02	0.06	0.06	0.04	0.14	0.10	0.04	0.09	0.13	0.01	0.03	0.76
Tariff Normalized, IEEE Region No Trans Line, All Ca	0.03	0.02	0.04	0.04	0.04	0.07	0.09	0.04	0.08	0.08	0.01	0.03	0.57
Annual Normalized, IEEE Region All Levels, All Caus	0.04	0.02	0.06	0.06	0.04	0.09	0.10	0.04	0.09	0.13	0.01	0.03	0.71
CES Cust Served													
2016 With Storms, All Levels, All Causes	0.02	0.04	0.06	0.06	0.09	0.10	0.17	0.09	0.09	0.04	0.11	0.03	0.91
Tariff Normalized, IEEE Region No Trans Line, All Ca	0.02	0.04	0.05	0.04	0.09	0.08	0.08	0.06	0.07	0.04	0.06	0.03	0.64
Annual Normalized, IEEE Region All Levels, All Caus	0.02	0.04	0.06	0.06	0.09	0.10	0.11	0.09	0.09	0.04	0.07	0.03	0.80
CES Cust Served													
2015 With Storms, All Levels, All Causes	0.04	0.02	0.04	0.04	0.10	0.12	0.22	0.07	0.10	0.03	0.04	0.02	0.86
Tariff Normalized, IEEE Region No Trans Line, All Ca	0.04	0.00	0.03	0.03	0.08	0.10	0.12	0.06	0.08	0.03	0.03	0.02	0.62
Annual Normalized, IEEE Region All Levels, All Caus	0.04	0.02	0.04	0.04	0.10	0.12	0.16	0.07	0.10	0.03	0.04	0.02	0.80
CES Cust Served													
2014 With Storms, All Levels, All Causes	0.04	0.09	0.03	0.07	0.15	0.16	0.06	0.10	0.07	0.05	0.05	0.03	0.89
Tariff Normalized, IEEE Region No Trans Line, All Ca	0.04	0.04	0.02	0.05	0.10	0.10	0.05	0.07	0.05	0.04	0.03	0.02	0.61
Annual Normalized, IEEE Region All Levels, All Caus	0.04	0.06	0.03	0.07	0.15	0.12	0.06	0.10	0.07	0.05	0.05	0.03	0.81
CES Cust Served													
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
Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	0.03	0.04	0.05	0.10	0.09	0.11	0.10	0.10	0.05	0.06	0.03	0.07	0.84
CES Cust Served													
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
Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	0.02	0.03	0.08	0.08	0.15	0.16	0.13	0.13	0.08	0.05	0.03	0.04	0.98
CES Cust Served													
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
Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	0.02	0.03	0.04	0.06	0.07	0.09	0.20	0.11	0.06	0.04	0.03	0.04	0.79
CES Cust Served													
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
Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	0.04	0.01	0.02	0.10	0.10	0.12	0.19	0.17	0.10	0.05	0.06	0.07	1.02
CES Cust Served													
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
Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CES Cust Served													

MAIFI - <= 5 Minutes Duration

Metro East - MAIFI	January	February	March	April	May	June	July	August	September	October	November	December	YTD
2019 With Storms, All Levels, All Causes	0.03	0.08	0.05	0.09	0.06	0.04	0.11	0.07	0.10	0.06	0.04	0.00	0.74
Tariff Normalized, IEEE Region No Trans Line, All Ca	0.03	0.01	0.05	0.09	0.06	0.03	0.06	0.07	0.05	0.06	0.03	0.00	0.54
Annual Normalized, IEEE Region All Levels, All Caus	0.03	0.08	0.05	0.09	0.06	0.04	0.09	0.07	0.08	0.06	0.04	0.00	0.70
CES Cust Served													
2018 With Storms, All Levels, All Causes	0.01	0.05	0.04	0.06	0.15	0.06	0.13	0.11	0.09	0.08	0.03	0.01	0.84
Tariff Normalized, IEEE Region No Trans Line, All Ca	0.01	0.05	0.04	0.06	0.14	0.06	0.13	0.09	0.09	0.08	0.03	0.01	0.81
Annual Normalized, IEEE Region All Levels, All Caus	0.01	0.05	0.04	0.06	0.14	0.06	0.13	0.11	0.09	0.08	0.03	0.01	0.83
CES Cust Served													
2017 With Storms, All Levels, All Causes	0.06	0.03	0.06	0.07	0.06	0.07	0.14	0.04	0.07	0.20	0.01	0.01	0.82
Tariff Normalized, IEEE Region No Trans Line, All Ca	0.06	0.03	0.06	0.05	0.05	0.05	0.13	0.04	0.07	0.09	0.01	0.01	0.65
Annual Normalized, IEEE Region All Levels, All Caus	0.06	0.03	0.06	0.07	0.06	0.05	0.13	0.04	0.07	0.20	0.01	0.01	0.79

	CES Cust Served												
2016	With Storms, All Levels, All Causes	0.02	0.07	0.08	0.10	0.07	0.06	0.11	0.09	0.12	0.03	0.06	0.01	0.80
	Tariff Normalized, IEEE Region No Trans Line, All Ca	0.02	0.07	0.08	0.07	0.07	0.06	0.06	0.09	0.10	0.03	0.06	0.01	0.70
	Annual Normalized, IEEE Region All Levels, All Caus	0.02	0.07	0.08	0.10	0.07	0.06	0.06	0.09	0.12	0.03	0.06	0.01	0.76
	CES Cust Served													
2015	With Storms, All Levels, All Causes	0.04	0.00	0.05	0.05	0.09	0.09	0.28	0.09	0.11	0.03	0.04	0.04	0.89
	Tariff Normalized, IEEE Region No Trans Line, All Ca	0.04	0.00	0.05	0.05	0.09	0.08	0.21	0.09	0.10	0.03	0.04	0.04	0.81
	Annual Normalized, IEEE Region All Levels, All Caus	0.04	0.00	0.05	0.05	0.09	0.09	0.21	0.09	0.11	0.03	0.04	0.04	0.82
	CES Cust Served													
2014	With Storms, All Levels, All Causes	0.04	0.06	0.02	0.05	0.10	0.16	0.07	0.04	0.02	0.03	0.08	0.02	0.70
	Tariff Normalized, IEEE Region No Trans Line, All Ca	0.04	0.01	0.02	0.05	0.10	0.08	0.07	0.04	0.02	0.03	0.06	0.02	0.55
	Annual Normalized, IEEE Region All Levels, All Caus	0.04	0.01	0.02	0.05	0.10	0.08	0.07	0.04	0.02	0.03	0.08	0.02	0.57
	CES Cust Served													
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
	Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	0.04	0.05	0.04	0.12	0.11	0.10	0.07	0.05	0.09	0.05	0.03	0.04	0.81
	CES Cust Served													
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
	Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	0.02	0.02	0.07	0.11	0.11	0.13	0.11	0.14	0.07	0.04	0.00	0.03	0.87
	CES Cust Served													
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
	Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	0.04	0.01	0.05	0.04	0.08	0.09	0.17	0.10	0.09	0.02	0.01	0.04	0.74
	CES Cust Served													
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
	Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	0.06	0.00	0.03	0.09	0.13	0.10	0.19	0.12	0.08	0.06	0.08	0.06	1.03
	CES Cust Served													
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
	Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	CES Cust Served													

MAIFI - <= 5 Minutes Duration

Metro West - MAIFI	January	February	March	April	May	June	July	August	September	October	November	December	YTD
2019 With Storms, All Levels, All Causes	0.02	0.01	0.05	0.08	0.08	0.09	0.07	0.04	0.11	0.07	0.02	0.02	0.64
Tariff Normalized, IEEE Region No Trans Line, All Ca	0.02	0.00	0.05	0.08	0.08	0.09	0.06	0.04	0.11	0.07	0.01	0.02	0.61
Annual Normalized, IEEE Region All Levels, All Caus	0.02	0.01	0.05	0.08	0.08	0.09	0.06	0.04	0.11	0.07	0.02	0.02	0.64
CES Cust Served													
2018 With Storms, All Levels, All Causes	0.01	0.03	0.01	0.05	0.10	0.06	0.06	0.07	0.10	0.03	0.02	0.00	0.56
Tariff Normalized, IEEE Region No Trans Line, All Ca	0.01	0.03	0.01	0.05	0.10	0.06	0.06	0.05	0.10	0.03	0.02	0.00	0.53
Annual Normalized, IEEE Region All Levels, All Caus	0.01	0.03	0.01	0.05	0.10	0.06	0.06	0.07	0.10	0.03	0.02	0.00	0.55
CES Cust Served													
2017 With Storms, All Levels, All Causes	0.02	0.02	0.04	0.05	0.03	0.15	0.07	0.03	0.10	0.08	0.02	0.02	0.61
Tariff Normalized, IEEE Region No Trans Line, All Ca	0.02	0.02	0.04	0.04	0.03	0.08	0.07	0.03	0.09	0.05	0.02	0.02	0.51
Annual Normalized, IEEE Region All Levels, All Caus	0.02	0.02	0.04	0.05	0.03	0.08	0.07	0.03	0.10	0.08	0.02	0.02	0.55
CES Cust Served													
2016 With Storms, All Levels, All Causes	0.02	0.04	0.04	0.04	0.11	0.14	0.19	0.06	0.04	0.04	0.09	0.06	0.85
Tariff Normalized, IEEE Region No Trans Line, All Ca	0.02	0.04	0.04	0.03	0.11	0.10	0.08	0.03	0.04	0.04	0.07	0.06	0.65
Annual Normalized, IEEE Region All Levels, All Caus	0.02	0.04	0.04	0.04	0.11	0.14	0.10	0.06	0.04	0.04	0.09	0.06	0.76
CES Cust Served													
2015 With Storms, All Levels, All Causes	0.03	0.04	0.02	0.02	0.10	0.14	0.16	0.06	0.08	0.04	0.03	0.00	0.73
Tariff Normalized, IEEE Region No Trans Line, All Ca	0.03	0.01	0.01	0.02	0.08	0.14	0.08	0.05	0.05	0.04	0.03	0.00	0.55
Annual Normalized, IEEE Region All Levels, All Caus	0.03	0.04	0.02	0.02	0.10	0.14	0.08	0.06	0.08	0.04	0.03	0.00	0.64
CES Cust Served													
2014 With Storms, All Levels, All Causes	0.01	0.08	0.03	0.06	0.15	0.14	0.06	0.12	0.09	0.05	0.02	0.02	0.82
Tariff Normalized, IEEE Region No Trans Line, All Ca	0.01	0.07	0.03	0.06	0.09	0.11	0.05	0.08	0.09	0.05	0.02	0.02	0.67
Annual Normalized, IEEE Region All Levels, All Caus	0.01	0.08	0.03	0.06	0.15	0.11	0.06	0.12	0.09	0.05	0.02	0.02	0.80

	CES Cust Served												
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
	Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	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
	CES Cust Served													
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
	Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	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
	CES Cust Served													
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
	Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	0.02	0.04	0.03	0.09	0.08	0.06	0.19	0.06	0.06	0.06	0.03	0.04	0.75
	CES Cust Served													
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
	Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	0.01	0.01	0.01	0.09	0.06	0.12	0.18	0.18	0.10	0.06	0.06	0.05	0.94
	CES Cust Served													
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
	Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	CES Cust Served													

MAIFI - <= 5 Minutes Duration

Northwest - MAIFI	January	February	March	April	May	June	July	August	September	October	November	December	YTD
2019 With Storms, All Levels, All Causes	0.01	0.05	0.12	0.09	0.17	0.14	0.17	0.16	0.46	0.04	0.08	0.05	1.52
Tariff Normalized, IEEE Region No Trans Line, All Ca	0.00	0.03	0.12	0.03	0.09	0.09	0.13	0.05	0.16	0.04	0.06	0.05	0.84
Annual Normalized, IEEE Region All Levels, All Caus	0.01	0.05	0.12	0.06	0.17	0.14	0.17	0.16	0.40	0.04	0.08	0.05	1.43
CES Cust Served													
2018 With Storms, All Levels, All Causes	0.01	0.06	0.07	0.27	0.30	0.16	0.07	0.14	0.16	0.08	0.04	0.06	1.42
Tariff Normalized, IEEE Region No Trans Line, All Ca	0.01	0.06	0.05	0.07	0.17	0.11	0.05	0.08	0.06	0.04	0.03	0.03	0.75
Annual Normalized, IEEE Region All Levels, All Caus	0.01	0.06	0.07	0.27	0.30	0.16	0.07	0.14	0.16	0.08	0.04	0.06	1.42
CES Cust Served													
2017 With Storms, All Levels, All Causes	0.09	0.01	0.20	0.08	0.09	0.27	0.08	0.06	0.18	0.17	0.00	0.13	1.37
Tariff Normalized, IEEE Region No Trans Line, All Ca	0.05	0.01	0.09	0.02	0.03	0.10	0.05	0.04	0.17	0.17	0.00	0.13	0.85
Annual Normalized, IEEE Region All Levels, All Caus	0.09	0.01	0.20	0.08	0.09	0.18	0.08	0.06	0.18	0.17	0.00	0.13	1.28
CES Cust Served													
2016 With Storms, All Levels, All Causes	0.00	0.01	0.10	0.04	0.17	0.11	0.24	0.08	0.13	0.07	0.42	0.04	1.42
Tariff Normalized, IEEE Region No Trans Line, All Ca	0.00	0.01	0.08	0.03	0.11	0.07	0.07	0.05	0.10	0.07	0.01	0.03	0.64
Annual Normalized, IEEE Region All Levels, All Caus	0.00	0.01	0.10	0.04	0.17	0.11	0.19	0.08	0.13	0.07	0.01	0.04	0.95
CES Cust Served													
2015 With Storms, All Levels, All Causes	0.10	0.02	0.16	0.08	0.16	0.15	0.37	0.07	0.23	0.01	0.05	0.05	1.44
Tariff Normalized, IEEE Region No Trans Line, All Ca	0.07	0.01	0.05	0.04	0.09	0.04	0.16	0.03	0.15	0.01	0.01	0.03	0.69
Annual Normalized, IEEE Region All Levels, All Caus	0.10	0.02	0.16	0.08	0.16	0.15	0.37	0.07	0.23	0.01	0.05	0.05	1.44
CES Cust Served													
2014 With Storms, All Levels, All Causes	0.20	0.08	0.04	0.21	0.24	0.27	0.08	0.25	0.05	0.04	0.01	0.04	1.51
Tariff Normalized, IEEE Region No Trans Line, All Ca	0.20	0.03	0.04	0.06	0.15	0.14	0.00	0.10	0.00	0.04	0.00	0.04	0.81
Annual Normalized, IEEE Region All Levels, All Caus	0.20	0.08	0.04	0.21	0.24	0.27	0.08	0.25	0.05	0.04	0.01	0.04	1.51
CES Cust Served													
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
Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	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
CES Cust Served													
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
Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	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
CES Cust Served													
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
Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	0.04	0.04	0.02	0.05	0.02	0.12	0.26	0.15	0.00	0.04	0.07	0.04	0.84

	CES Cust Served												
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
	Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	0.04	0.00	0.02	0.16	0.23	0.16	0.19	0.17	0.11	0.02	0.05	0.15	1.31
	CES Cust Served													
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
	Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	CES Cust Served													
MAIFI - <= 5 Minutes Duration														

Southeast - MAIFI		January	February	March	April	May	June	July	August	September	October	November	December	YTD
2019	With Storms, All Levels, All Causes	0.04	0.04	0.13	0.30	0.11	0.15	0.14	0.03	0.12	0.05	0.09	0.02	1.22
	Tariff Normalized, IEEE Region No Trans Line, All Ca	0.02	0.04	0.09	0.02	0.04	0.03	0.08	0.03	0.04	0.05	0.05	0.01	0.48
	Annual Normalized, IEEE Region All Levels, All Caus	0.04	0.04	0.13	0.12	0.11	0.15	0.12	0.03	0.09	0.05	0.09	0.02	0.99
	CES Cust Served													
2018	With Storms, All Levels, All Causes	0.04	0.04	0.03	0.16	0.07	0.11	0.13	0.17	0.14	0.01	0.03	0.02	0.92
	Tariff Normalized, IEEE Region No Trans Line, All Ca	0.02	0.00	0.01	0.03	0.06	0.07	0.09	0.10	0.03	0.01	0.02	0.00	0.44
	Annual Normalized, IEEE Region All Levels, All Caus	0.04	0.04	0.03	0.11	0.07	0.11	0.13	0.17	0.04	0.01	0.03	0.02	0.78
	CES Cust Served													
2017	With Storms, All Levels, All Causes	0.00	0.02	0.03	0.07	0.03	0.18	0.15	0.05	0.04	0.15	0.01	0.00	0.73
	Tariff Normalized, IEEE Region No Trans Line, All Ca	0.00	0.02	0.00	0.04	0.03	0.02	0.09	0.03	0.03	0.10	0.01	0.00	0.37
	Annual Normalized, IEEE Region All Levels, All Caus	0.00	0.02	0.03	0.07	0.03	0.18	0.15	0.05	0.04	0.15	0.01	0.00	0.73
	CES Cust Served													
2016	With Storms, All Levels, All Causes	0.05	0.00	0.10	0.03	0.02	0.05	0.26	0.26	0.21	0.03	0.05	0.00	1.05
	Tariff Normalized, IEEE Region No Trans Line, All Ca	0.03	0.00	0.00	0.01	0.02	0.02	0.10	0.07	0.06	0.03	0.05	0.00	0.39
	Annual Normalized, IEEE Region All Levels, All Caus	0.05	0.00	0.10	0.03	0.02	0.04	0.22	0.26	0.21	0.03	0.05	0.00	1.00
	CES Cust Served													
2015	With Storms, All Levels, All Causes	0.04	0.06	0.05	0.06	0.10	0.11	0.16	0.07	0.10	0.04	0.08	0.01	0.88
	Tariff Normalized, IEEE Region No Trans Line, All Ca	0.00	0.00	0.01	0.03	0.02	0.05	0.03	0.03	0.06	0.04	0.04	0.00	0.32
	Annual Normalized, IEEE Region All Levels, All Caus	0.04	0.06	0.05	0.06	0.10	0.11	0.16	0.07	0.10	0.04	0.08	0.01	0.88
	CES Cust Served													
2014	With Storms, All Levels, All Causes	0.02	0.25	0.02	0.01	0.19	0.14	0.02	0.07	0.11	0.13	0.15	0.10	1.20
	Tariff Normalized, IEEE Region No Trans Line, All Ca	0.01	0.01	0.00	0.00	0.07	0.04	0.02	0.04	0.05	0.08	0.00	0.02	0.34
	Annual Normalized, IEEE Region All Levels, All Caus	0.02	0.10	0.02	0.01	0.19	0.11	0.02	0.07	0.11	0.13	0.15	0.04	0.97
	CES Cust Served													
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
	Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	0.04	0.03	0.00	0.12	0.04	0.11	0.10	0.06	0.03	0.09	0.02	0.15	0.81
	CES Cust Served													
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
	Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	0.05	0.00	0.07	0.00	0.17	0.16	0.30	0.19	0.04	0.04	0.04	0.00	1.06
	CES Cust Served													
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
	Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	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
	CES Cust Served													
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
	Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	0.09	0.00	0.02	0.07	0.09	0.10	0.23	0.23	0.10	0.02	0.03	0.09	1.08
	CES Cust Served													
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
	Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	CES Cust Served													
MAIFI - <= 5 Minutes Duration														

Minnesota - Customer Interruptions	January	February	March	April	May	June	July	August	September	October	November	December	YTD

2019 With Storms, All Levels, All Causes	33,812	52,508	81,258	134,469	108,928	103,049	124,083	79,369	179,825	75,041	50,310	18,447	1,041,099
Tariff Normalized, IEEE Region No Trans Line, All Ca	28,787	16,119	76,448	87,955	88,939	80,372	87,100	65,265	110,861	75,041	30,296	16,859	764,042
Annual Normalized, IEEE Region All Levels, All Caus	33,812	52,508	81,258	107,764	108,928	103,049	111,694	79,369	159,811	75,041	50,310	18,447	981,991
CES Cust Served	1,271,572	1,272,182	1,273,191	1,273,389	1,273,236	1,272,910	1,273,366	1,280,040	1,280,959	1,282,278	1,284,381	1,287,572	
2018 With Storms, All Levels, All Causes	17,028	50,720	37,088	110,806	166,321	96,952	116,525	125,816	132,306	63,103	35,948	18,615	971,228
Tariff Normalized, IEEE Region No Trans Line, All Ca	14,890	45,049	31,883	70,214	145,886	86,076	106,829	93,386	105,644	58,219	26,819	13,179	798,074
Annual Normalized, IEEE Region All Levels, All Caus	17,028	50,720	37,088	104,668	162,571	96,952	114,166	125,816	120,555	63,103	35,948	18,615	947,230
CES Cust Served	1,260,537	1,261,499	1,262,635	1,263,050	1,263,057	1,266,221	1,266,173	1,263,754	1,266,996	1,268,418	1,269,462	1,270,153	
2017 With Storms, All Levels, All Causes	48,438	25,199	72,370	78,526	56,089	171,914	124,532	49,070	110,614	168,822	17,302	35,011	957,887
Tariff Normalized, IEEE Region No Trans Line, All Ca	43,639	25,199	55,242	51,938	44,843	83,569	111,372	44,023	105,611	101,720	17,302	35,011	719,469
Annual Normalized, IEEE Region All Levels, All Caus	48,438	25,199	72,370	78,526	56,089	113,347	122,624	49,070	110,614	168,822	17,302	35,011	897,412
CES Cust Served	1,253,235	1,253,916	1,254,234	1,254,354	1,254,432	1,254,973	1,254,729	1,255,562	1,256,281	1,256,880	1,258,571	1,259,394	
2016 With Storms, All Levels, All Causes	25,441	52,112	80,843	70,399	114,855	128,116	215,856	111,183	116,858	45,828	134,584	42,779	1,138,854
Tariff Normalized, IEEE Region No Trans Line, All Ca	22,237	52,112	66,022	48,486	106,986	95,825	93,846	71,208	85,741	45,828	71,773	41,482	801,546
Annual Normalized, IEEE Region All Levels, All Caus	25,441	52,112	80,843	70,399	114,855	125,305	132,820	111,183	116,858	45,828	86,413	42,779	1,004,836
CES Cust Served	1,248,344	1,249,470	1,250,387	1,250,350	1,249,681	1,249,044	1,250,095	1,249,999	1,250,203	1,250,886	1,251,414	1,252,586	
2015 With Storms, All Levels, All Causes	53,648	30,726	55,959	48,043	127,125	150,889	273,326	87,827	129,712	42,223	51,256	23,201	1,073,935
Tariff Normalized, IEEE Region No Trans Line, All Ca	44,306	5,906	33,165	38,443	98,512	127,693	151,499	73,873	95,202	42,223	41,385	20,869	773,076
Annual Normalized, IEEE Region All Levels, All Caus	53,648	30,726	55,959	48,043	127,125	150,889	195,595	87,827	129,712	42,223	51,256	23,201	996,204
CES Cust Served	1,240,765	1,243,499	1,244,176	1,244,298	1,243,059	1,242,418	1,242,902	1,243,049	1,243,408	1,244,577	1,245,663	1,247,112	
2014 With Storms, All Levels, All Causes	51,425	109,574	31,286	83,684	179,745	194,907	75,353	125,483	81,552	60,308	61,666	39,682	1,094,665
Tariff Normalized, IEEE Region No Trans Line, All Ca	49,036	48,807	28,982	61,123	117,403	119,732	58,512	85,015	67,369	54,991	33,106	26,887	750,963
Annual Normalized, IEEE Region All Levels, All Caus	51,425	72,087	31,286	83,684	179,745	143,588	75,353	125,483	81,552	60,308	61,666	32,402	998,579
CES Cust Served	1,231,703	1,232,212	1,234,076	1,234,577	1,233,718	1,233,259	1,234,483	1,235,520	1,236,117	1,237,649	1,238,571	1,239,207	
2013 With Storms, All Levels, All Causes	41,377	50,759	60,258	126,599	114,691	300,256	127,829	138,192	63,215	68,852	36,139	87,140	1,215,307
Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	41,377	50,759	60,258	126,599	104,984	130,911	127,829	120,234	63,215	68,852	36,139	87,140	1,018,297
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
Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	27,803	31,244	102,984	97,500	187,066	189,676	157,721	159,255	103,140	64,880	33,897	45,544	1,200,710
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
Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	26,901	37,582	45,283	77,141	84,172	107,776	242,927	129,586	68,865	48,560	41,812	49,261	959,866
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
Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	42,415	6,091	26,315	118,158	120,150	138,833	231,940	200,022	116,195	64,760	77,698	79,997	1,222,574
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
Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	0	0	0	0	0	0	0	0	0	0	0	0	0
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
2019 With Storms, All Levels, All Causes	13,545	35,223	19,335	39,427	25,017	15,108	45,934	31,388	43,475	23,817	18,352	2	310,623
Tariff Normalized, IEEE Region No Trans Line, All Ca	13,545	4,999	19,335	35,822	25,017	13,692	25,945	31,388	22,336	23,817	11,675	2	227,573
Annual Normalized, IEEE Region All Levels, All Caus	13,545	35,223	19,335	39,427	25,017	15,108	39,627	31,388	35,312	23,817	18,352	2	296,153
CES Cust Served	419,683	419,901	420,157	420,211	420,088	419,961	420,135	421,742	421,918	422,298	423,044	424,150	
2018 With Storms, All Levels, All Causes	5,434	22,864	16,058	26,163	60,461	26,771	55,108	44,561	37,613	33,627	14,436	6,069	349,165
Tariff Normalized, IEEE Region No Trans Line, All Ca	5,434	22,864	16,058	26,163	56,711	26,771	55,108	38,388	37,613	33,627	12,145	6,069	336,951
Annual Normalized, IEEE Region All Levels, All Caus	5,434	22,864	16,058	26,163	56,711	26,771	55,108	44,561	37,613	33,627	14,436	6,069	345,415
CES Cust Served	415,400	415,867	416,331	416,570	416,559	417,460	417,406	417,529	417,675	418,464	418,813	419,251	
2017 With Storms, All Levels, All Causes	23,529	10,552	23,793	29,693	26,334	30,215	56,586	17,240	27,139	84,099	5,706	5,862	340,748
Tariff Normalized, IEEE Region No Trans Line, All Ca	23,529	10,552	23,793	19,335	22,105	18,646	54,678	17,240	27,139	38,693	5,706	5,862	267,278
Annual Normalized, IEEE Region All Levels, All Caus	23,529	10,552	23,793	29,693	26,334	18,646	54,678	17,240	27,139	84,099	5,706	5,862	327,271
CES Cust Served	412,791	413,033	413,181	413,401	413,461	413,487	413,489	413,829	413,948	414,136	414,640	414,964	

2016 With Storms, All Levels, All Causes	8,042	30,312	31,530	39,980	28,813	25,258	44,241	35,094	49,970	10,848	24,347	2,540	330,975
Tariff Normalized, IEEE Region No Trans Line, All Ca	8,042	30,312	31,530	27,061	27,881	25,258	24,527	35,094	41,452	10,848	24,347	2,540	288,892
Annual Normalized, IEEE Region All Levels, All Caus	8,042	30,312	31,530	39,980	28,813	25,258	24,527	35,094	49,970	10,848	24,347	2,540	311,261
CES Cust Served	410,535	410,808	411,301	411,260	411,117	410,936	411,390	411,453	411,397	411,786	412,089	412,530	
2015 With Storms, All Levels, All Causes	16,105	96	18,601	18,599	37,233	35,887	113,389	36,108	44,337	13,870	15,477	15,312	365,014
Tariff Normalized, IEEE Region No Trans Line, All Ca	16,105	96	18,601	18,599	37,233	32,726	84,999	36,108	41,180	13,870	15,352	15,312	330,181
Annual Normalized, IEEE Region All Levels, All Caus	16,105	96	18,601	18,599	37,233	35,887	84,999	36,108	44,337	13,870	15,477	15,312	336,624
CES Cust Served	408,325	408,859	409,140	409,169	408,830	408,530	408,590	408,804	408,893	409,248	409,466	410,136	
2014 With Storms, All Levels, All Causes	17,785	24,419	8,617	21,651	39,547	66,289	27,386	18,159	7,948	11,472	31,248	9,845	284,366
Tariff Normalized, IEEE Region No Trans Line, All Ca	17,785	5,324	8,617	21,651	39,547	34,170	27,386	18,159	7,948	11,472	22,587	7,397	222,043
Annual Normalized, IEEE Region All Levels, All Caus	17,785	5,324	8,617	21,651	39,547	34,170	27,386	18,159	7,948	11,472	31,248	9,845	233,152
CES Cust Served	405,168	405,513	406,266	406,476	406,280	406,118	406,328	406,609	406,781	407,216	407,552	407,915	
2013 With Storms, All Levels, All Causes	17,691	21,577	16,627	49,307	44,434	106,410	26,547	21,835	37,927	18,819	13,534	14,335	389,043
Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	17,691	21,577	16,627	49,307	44,434	41,338	26,547	21,835	37,927	18,819	13,534	14,335	323,971
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
Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	9,429	7,657	29,988	44,236	45,887	50,292	45,177	55,701	29,928	17,646	1	13,069	349,011
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
Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	14,026	5,853	18,212	16,531	32,944	36,717	68,237	41,654	34,921	6,655	3,330	17,534	296,614
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
Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	23,545	1,334	13,386	37,096	49,923	41,393	76,955	49,188	31,684	25,265	32,169	24,304	406,242
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
Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Causes													0
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
2019 With Storms, All Levels, All Causes	12,910	6,452	31,818	46,135	48,620	52,224	39,878	24,462	64,468	40,849	11,121	10,557	389,494
Tariff Normalized, IEEE Region No Trans Line, All Ca	12,687	2,015	31,818	46,135	47,497	52,224	34,914	23,340	64,468	40,849	5,698	10,557	372,202
Annual Normalized, IEEE Region All Levels, All Caus	12,910	6,452	31,818	46,135	48,620	52,224	36,037	24,462	64,468	40,849	11,121	10,557	385,653
CES Cust Served	602,621	602,845	603,436	603,556	603,725	603,657	603,795	608,316	608,874	609,255	610,028	611,784	
2018 With Storms, All Levels, All Causes	5,634	16,461	8,897	32,597	60,725	37,120	36,442	43,114	58,046	19,281	13,773	2,689	334,779
Tariff Normalized, IEEE Region No Trans Line, All Ca	5,634	15,033	8,897	31,479	60,725	37,120	34,083	32,924	58,046	19,281	9,258	2,689	315,169
Annual Normalized, IEEE Region All Levels, All Caus	5,634	16,461	8,897	32,597	60,725	37,120	34,083	43,114	58,046	19,281	13,773	2,689	332,420
CES Cust Served	597,570	597,981	598,412	598,492	598,854	600,487	600,447	600,156	600,628	601,130	601,579	601,815	
2017 With Storms, All Levels, All Causes	13,443	11,028	21,059	30,168	14,998	86,309	39,284	18,933	57,172	45,207	10,641	13,463	361,705
Tariff Normalized, IEEE Region No Trans Line, All Ca	13,443	11,028	21,059	24,943	14,998	49,924	39,284	18,933	55,280	30,413	10,641	13,463	303,409
Annual Normalized, IEEE Region All Levels, All Caus	13,443	11,028	21,059	30,168	14,998	49,924	39,284	18,933	57,172	45,207	10,641	13,463	325,320
CES Cust Served	594,042	594,419	594,617	594,504	594,556	595,107	594,745	595,053	595,586	595,728	596,694	597,020	
2016 With Storms, All Levels, All Causes	10,618	20,783	24,765	21,968	63,448	83,030	110,665	33,826	24,568	22,046	54,918	35,894	506,529
Tariff Normalized, IEEE Region No Trans Line, All Ca	10,618	20,783	24,765	16,991	63,448	60,133	47,503	20,215	24,568	22,046	40,310	35,894	387,274
Annual Normalized, IEEE Region All Levels, All Caus	10,618	20,783	24,765	21,968	63,448	83,030	57,852	33,826	24,568	22,046	54,918	35,894	453,716
CES Cust Served	592,434	593,132	593,410	593,402	593,175	592,828	593,312	593,023	593,171	593,304	593,406	593,764	
2015 With Storms, All Levels, All Causes	20,248	20,802	12,793	12,377	58,604	83,970	95,498	35,098	44,974	22,670	19,724	1,539	428,297
Tariff Normalized, IEEE Region No Trans Line, All Ca	20,026	4,566	7,306	11,263	48,212	83,970	44,452	29,636	28,777	22,670	19,724	1,539	322,141
Annual Normalized, IEEE Region All Levels, All Caus	20,248	20,802	12,793	12,377	58,604	83,970	46,157	35,098	44,974	22,670	19,724	1,539	378,956
CES Cust Served	588,110	590,082	590,398	590,516	590,066	589,627	590,093	589,851	589,987	590,525	591,304	591,872	
2014 With Storms, All Levels, All Causes	7,411	44,827	15,601	36,712	88,611	79,703	36,033	69,195	53,337	28,313	10,034	12,011	481,788
Tariff Normalized, IEEE Region No Trans Line, All Ca	7,411	38,344	15,601	32,285	51,254	64,184	28,749	49,688	53,337	28,313	10,034	12,011	391,211
Annual Normalized, IEEE Region All Levels, All Caus	7,411	44,827	15,601	36,712	88,611	64,184	36,033	69,195	53,337	28,313	10,034	12,011	466,269
CES Cust Served	583,345	583,434	584,207	584,437	584,033	583,979	584,821	585,482	585,739	586,543	587,045	587,179	

2013 With Storms, All Levels, All Causes	9,069	12,973	31,592	38,102	34,675	104,623	83,557	90,881	15,726	28,293	18,748	35,661	503,900
Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	9,069	12,973	31,592	38,102	34,675	63,450	83,557	72,923	15,726	28,293	18,748	35,661	444,769
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
Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	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
Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	8,720	23,830	18,125	49,543	45,410	33,489	108,233	33,617	33,641	35,411	19,442	21,122	430,583
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
Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	2,968	3,760	7,722	53,314	32,479	66,770	103,957	103,180	59,310	34,586	35,405	27,030	530,481
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
Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Causes													0
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
2019 With Storms, All Levels, All Causes	1,728	5,899	13,998	10,907	20,768	16,473	20,235	19,306	56,047	4,285	9,243	5,554	184,443
Tariff Normalized, IEEE Region No Trans Line, All Causes		4,172	13,998	3,710	11,114	11,089	15,677	6,357	19,484	4,285	6,821	5,554	102,261
Annual Normalized, IEEE Region All Levels, All Caus	1,728	5,899	13,998	6,769	20,768	16,473	20,235	19,306	48,244	4,285	9,243	5,554	172,502
CES Cust Served	120,666	120,755	120,871	120,858	120,786	120,697	120,884	121,043	121,183	121,384	121,716	121,815	
2018 With Storms, All Levels, All Causes	1,198	6,639	8,612	31,935	36,360	18,864	8,792	16,827	19,251	9,246	4,400	7,474	169,598
Tariff Normalized, IEEE Region No Trans Line, All Ca	907	6,639	5,767	8,789	20,908	12,801	6,423	9,496	6,688	4,362	3,456	3,820	90,056
Annual Normalized, IEEE Region All Levels, All Caus	1,198	6,639	8,612	31,935	36,360	18,864	8,792	16,827	19,251	9,246	4,400	7,474	169,598
CES Cust Served	119,719	119,746	119,834	119,899	119,749	120,060	120,084	117,736	120,257	120,307	120,531	120,566	
2017 With Storms, All Levels, All Causes	10,977	919	24,225	9,678	10,449	32,504	9,596	6,738	21,792	20,249	1	15,664	162,792
Tariff Normalized, IEEE Region No Trans Line, All Ca	6,178	919	10,329	2,658	3,432	12,011	5,694	4,580	19,884	19,792	1	15,664	101,142
Annual Normalized, IEEE Region All Levels, All Caus	10,977	919	24,225	9,678	10,449	21,891	9,596	6,738	21,792	20,249	1	15,664	152,179
CES Cust Served	119,071	119,106	119,096	119,097	119,146	119,131	119,230	119,316	119,243	119,388	119,502	119,642	
2016 With Storms, All Levels, All Causes	93	1,005	11,840	5,177	20,353	13,458	28,226	9,706	15,535	8,776	49,329	4,299	167,797
Tariff Normalized, IEEE Region No Trans Line, All Ca	93	1,005	9,726	3,546	13,416	7,793	8,714	6,374	11,692	8,776	1,158	3,002	75,295
Annual Normalized, IEEE Region All Levels, All Caus	93	1,005	11,840	5,177	20,353	12,545	21,946	9,706	15,535	8,776	1,158	4,299	112,433
CES Cust Served	118,447	118,497	118,533	118,564	118,400	118,386	118,423	118,468	118,519	118,626	118,717	119,019	
2015 With Storms, All Levels, All Causes	12,023	2,530	18,547	9,150	18,472	17,688	44,138	7,858	27,249	1,246	5,367	5,645	169,913
Tariff Normalized, IEEE Region No Trans Line, All Ca	7,706	1,244	5,954	4,177	10,384	5,109	18,504	4,015	17,565	1,246	1,006	4,018	80,928
Annual Normalized, IEEE Region All Levels, All Caus	12,023	2,530	18,547	9,150	18,472	17,688	44,138	7,858	27,249	1,246	5,367	5,645	169,913
CES Cust Served	118,064	118,121	118,158	118,137	117,923	117,939	117,972	118,079	118,103	118,227	118,302	118,371	
2014 With Storms, All Levels, All Causes	23,872	8,856	4,717	24,352	28,058	31,658	9,557	29,170	5,782	4,684	923	5,280	176,909
Tariff Normalized, IEEE Region No Trans Line, All Ca	23,078	3,508	4,717	7,187	17,759	16,182		11,979	294	4,684		5,280	94,668
Annual Normalized, IEEE Region All Levels, All Caus	23,872	8,856	4,717	24,352	28,058	31,658	9,557	29,170	5,782	4,684	923	5,280	176,909
CES Cust Served	117,403	117,421	117,541	117,618	117,510	117,401	117,490	117,527	117,621	117,808	117,839	117,949	
2013 With Storms, All Levels, All Causes	9,769	12,000	11,519	23,847	20,437	75,560	5,032	17,369	5,715	10,638	946	18,955	211,787
Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	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
Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	2,855		3,052	18,245	41,144	29,763	23,222	14,130	6,615	5,728	1,584	18,908	165,246
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
Tariff Normalized, IEEE Region No Trans Line, All Causes		1,702	2	2,227	300	10,361	16,881	9,471		993	2,483		44,420
Annual Normalized, IEEE Region All Levels, All Caus	4,155	4,225	2,183	5,964	2,457	13,797	30,436	17,408		4,773	8,009	4,117	97,524
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
Tariff Normalized, IEEE Region No Trans Line, All Ca	3,379	446	1,312	773	14,140	14,035	12,875	11,687	296	77	5,884	5,106	70,010
Annual Normalized, IEEE Region All Levels, All Caus	4,454	446	2,245	18,635	27,098	18,574	22,232	19,481	12,691	2,719	5,884	17,443	151,902
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
Tariff Normalized, IEEE Region No Trans Line, All Ca	1		4,416	9,566	6,104	8,905	1,819	14,268	11,030	1	11,139		67,249
Annual Normalized, IEEE Region All Levels, All Causes													0
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
2019 With Storms, All Levels, All Causes	5,629	4,934	16,107	38,000	14,523	19,244	18,036	4,213	15,835	6,090	11,594	2,334	156,539
Tariff Normalized, IEEE Region No Trans Line, All Ca	2,555	4,933	11,297	2,288	5,311	3,367	10,564	4,180	4,573	6,090	6,102	746	62,006
Annual Normalized, IEEE Region All Levels, All Caus	5,629	4,934	16,107	15,433	14,523	19,244	15,795	4,213	11,787	6,090	11,594	2,334	127,683
CES Cust Served	128,602	128,681	128,727	128,764	128,637	128,595	128,552	128,939	128,984	129,341	129,593	129,823	
2018 With Storms, All Levels, All Causes	4,762	4,756	3,521	20,111	8,775	14,197	16,183	21,314	17,396	949	3,339	2,383	117,686
Tariff Normalized, IEEE Region No Trans Line, All Ca	2,915	513	1,161	3,783	7,542	9,384	11,215	12,578	3,297	949	1,960	601	55,898
Annual Normalized, IEEE Region All Levels, All Caus	4,762	4,756	3,521	13,973	8,775	14,197	16,183	21,314	5,645	949	3,339	2,383	99,797
CES Cust Served	127,848	127,905	128,058	128,089	127,895	128,214	128,236	128,333	128,436	128,517	128,539	128,521	
2017 With Storms, All Levels, All Causes	489	2,700	3,293	8,987	4,308	22,886	19,066	6,159	4,511	19,267	954	22	92,642
Tariff Normalized, IEEE Region No Trans Line, All Ca	489	2,700	61	5,002	4,308	2,988	11,716	3,270	3,308	12,822	954	22	47,640
Annual Normalized, IEEE Region All Levels, All Caus	489	2,700	3,293	8,987	4,308	22,886	19,066	6,159	4,511	19,267	954	22	92,642
CES Cust Served	127,331	127,358	127,340	127,352	127,269	127,248	127,265	127,364	127,504	127,628	127,735	127,768	
2016 With Storms, All Levels, All Causes	6,688	12	12,708	3,274	2,241	6,370	32,724	32,557	26,785	4,158	5,990	46	133,553
Tariff Normalized, IEEE Region No Trans Line, All Ca	3,484	12	1	888	2,241	2,641	13,102	9,525	8,029	4,158	5,958	46	50,085
Annual Normalized, IEEE Region All Levels, All Caus	6,688	12	12,708	3,274	2,241	4,472	28,495	32,557	26,785	4,158	5,990	46	127,426
CES Cust Served	126,928	127,033	127,143	127,124	126,989	126,894	126,970	127,055	127,116	127,170	127,202	127,273	
2015 With Storms, All Levels, All Causes	5,272	7,298	6,018	7,917	12,816	13,344	20,301	8,763	13,152	4,437	10,688	705	110,711
Tariff Normalized, IEEE Region No Trans Line, All Ca	469		1,304	4,404	2,683	5,888	3,544	4,114	7,680	4,437	5,303		39,826
Annual Normalized, IEEE Region All Levels, All Caus	5,272	7,298	6,018	7,917	12,816	13,344	20,301	8,763	13,152	4,437	10,688	705	110,711
CES Cust Served	126,266	126,437	126,480	126,476	126,240	126,322	126,247	126,315	126,425	126,577	126,591	126,733	
2014 With Storms, All Levels, All Causes	2,357	31,472	2,351	969	23,529	17,257	2,377	8,959	14,485	15,839	19,461	12,546	151,602
Tariff Normalized, IEEE Region No Trans Line, All Ca	762	1,631	47		8,843	5,196	2,377	5,189	5,790	10,522	485	2,199	43,041
Annual Normalized, IEEE Region All Levels, All Caus	2,357	13,080	2,351	969	23,529	13,576	2,377	8,959	14,485	15,839	19,461	5,266	122,249
CES Cust Served	125,787	125,844	126,062	126,046	125,895	125,761	125,844	125,902	125,976	126,082	126,135	126,164	
2013 With Storms, All Levels, All Causes	4,848	4,209	520	15,343	15,145	13,663	12,693	8,107	3,847	11,102	2,911	18,189	110,577
Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	4,848	4,209	520	15,343	5,438	13,663	12,693	8,107	3,847	11,102	2,911	18,189	100,870
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
Tariff Normalized, IEEE Region No Trans Line, All Ca	6,037	25	256	2	5,066	5,447	14,277	6,835	3,634	5,058		8	46,645
Annual Normalized, IEEE Region All Levels, All Caus	6,037	25	8,191	2	20,975	20,350	37,058	24,090	5,261	5,609	5,304	8	132,910
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
Tariff Normalized, IEEE Region 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, IEEE Region All Levels, All Causes		3,674	6,763	5,103	3,361	23,773	36,021	36,907	303	1,721	11,031	6,488	135,145
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
Tariff Normalized, IEEE Region No Trans Line, All Ca	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, IEEE Region All Levels, All Caus	11,448	551	2,962	9,113	10,650	12,096	28,796	28,173	12,510	2,190	4,240	11,220	133,949
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
Tariff Normalized, IEEE Region 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, IEEE Region All Levels, All Causes													0
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	

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

	Residential	Commercial	Industrial	Other	A Total	B Total Number of Meters Installed	A÷B Percent Read by Customer
JANUARY	10	1			11	1782232	0.0006%
FEBRUARY	3				3	1783597	0.0002%
MARCH	3	3			6	1784542	0.0003%
APRIL	5				5	1785172	0.0003%
MAY	8				8	1786473	0.0004%
JUNE	15				15	1787859	0.0008%
JULY	11				11	1789209	0.0006%
AUGUST	5				5	1790754	0.0003%
SEPTEMBER	4	1			5	1792508	0.0003%
OCTOBER	3	1			4	1793864	0.0002%
NOVEMBER	3				3	1795659	0.0002%
DECEMBER	9				9	1797613	0.0005%

C-1. The number and percentage of residential 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	57	58	31	59	29	41	50	63	70	91	85	115	749	32.85%
NO ANSWER	39	33	62	51	61	43	43	40	28	34	18	13	465	20.39%
OC Meter Maint	19	15	10	15	10	8	24	18	21	15	25	27	207	9.08%
BAD KEY OR CODE	10	15	20	11	12	10	9	7	4	6	5	1	110	4.82%
NEED KEY OR CODE	12	11	15	14	12	7	2	7	4	2	17	3	106	4.65%
DOOR LOCKED	4	3	14	11	22	9	8	2	5	12	6	2	98	4.30%
DEAD REGISTER	7	8	22	9	6	8	8	6	5	6	3	3	91	3.99%
METER OFF	13	6	10	9	11	7	5	3	7	6	4	8	89	3.90%
GATE PROBLEM	9	12	8	6	7	8	8	4	3	1	2	2	70	3.07%
METER REMOVED	3	1	2	5	5	2	5	3	2	7	6	1	42	1.84%
NO ACCESS BACK YARD	4	0	1	4	2	2	5	1	3	5	1	0	28	1.23%
DOG	2	1	2	7	9	1	1	1	1	1	0	1	27	1.18%
SERVICE CUT AT POLE	1	1	5	2	1	1	0	2	2	5	6	1	27	1.18%
VACANT	4	3	3	8	4	1	1	1	0	1	1	0	27	1.18%
METER BLOCKED	2	2	1	1	5	3	4	3	2	2	0	1	26	1.14%
UNSAFE CONDITION	2	1	2	2	1	0	1	2	0	2	3	0	16	0.70%
KEY NOT AVAILABLE	1	4	2	0	2	3	0	1	0	0	1	1	15	0.66%
Non-Energized	0	0	2	2	3	3	2	1	0	1	0	0	14	0.61%
SNOW/MUD	0	4	6	0	0	0	0	0	0	0	0	2	12	0.53%
REFUSED ADMITTANCE	0	0	0	0	0	1	4	2	2	0	0	1	10	0.44%
BAD ROAD	0	0	2	0	0	1	1	1	0	1	1	2	9	0.39%
CUSTOMER READING	0	0	0	2	1	0	1	1	1	1	1	1	9	0.39%
CUST REQUESTS SKIP	1	0	1	1	0	0	1	0	1	0	1	0	6	0.26%
SEASONAL	0	0	0	2	0	1	0	1	1	0	0	1	6	0.26%
BUSINESS CLOSED	0	0	2	0	0	0	0	0	0	0	2	0	4	0.18%
DOG NEXT DOOR	0	0	1	2	0	1	0	0	0	0	0	0	4	0.18%
OC CellNet New: no premise ID	0	0	0	0	0	0	0	1	3	0	0	0	4	0.18%
REPLACE GLASS	0	0	0	0	1	0	0	2	0	0	0	0	3	0.13%
EMED Meter Maint	0	0	0	0	0	0	0	0	2	0	0	0	2	0.09%
ABS Data Corrupt - BS	1	0	0	0	0	0	0	0	0	0	0	0	1	0.04%
INCLEMENT WEATHER	1	0	0	0	0	0	0	0	0	0	0	0	1	0.04%
OC Record Mismatch	0	0	0	0	1	0	0	0	0	0	0	0	1	0.04%
SPS DEAD REGISTER	0	0	0	1	0	0	0	0	0	0	0	0	1	0.04%
Total	192	178	224	224	205	161	183	173	167	199	188	186	2280	100%

C-1. The number and percentage of commercial 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	35	37	19	35	21	28	37	48	53	57	55	79	504	31.48%
METER OFF	31	23	24	24	38	38	28	30	28	29	22	19	334	20.86%
Non-Energized	0	0	11	14	14	15	13	16	14	12	18	4	131	8.18%
DEAD REGISTER	6	9	9	12	15	5	11	11	16	10	6	4	114	7.12%
METER REMOVED	4	7	10	7	7	4	6	6	3	7	10	7	78	4.87%
NO ANSWER	8	6	5	10	10	7	6	4	2	5	4	3	70	4.37%
SERVICE CUT AT POLE	1	2	4	6	8	9	7	6	3	4	6	3	59	3.69%
VACANT	2	5	2	5	9	5	4	3	4	7	2	2	50	3.12%
OC Meter Maint	1	3	2	6	0	2	1	6	4	3	2	6	36	2.25%
DOOR LOCKED	2	1	5	6	5	2	2	1	3	1	4	1	33	2.06%
SEASONAL	5	5	8	3	1	0	0	0	0	1	0	0	23	1.44%
UNSAFE CONDITION	0	3	3	2	3	3	3	1	2	1	0	0	21	1.31%
BAD KEY OR CODE	1	1	0	0	1	4	4	4	0	2	3	0	20	1.25%
BUSINESS CLOSED	0	3	3	1	0	3	3	2	1	0	2	1	19	1.19%
GATE PROBLEM	2	1	2	2	5	4	0	0	1	0	1	0	18	1.12%
SNOW/MUD	0	7	8	0	0	0	0	0	0	0	0	1	16	1%
HANDHELD ESTIMATE	1	1	1	1	1	1	3	1	1	2	1	0	14	0.87%
NEED KEY OR CODE	2	1	1	0	3	1	1	1	2	1	1	0	14	0.87%
BAD ROAD	0	0	1	2	1	2	2	2	1	0	0	0	11	0.69%
CUST REQUESTS SKIP	0	0	0	0	3	1	1	1	1	2	1	0	10	0.62%
KEY NOT AVAILABLE	1	2	1	1	0	1	1	0	0	0	1	0	8	0.50%
TEXT	0	0	4	0	0	0	0	0	0	0	0	0	4	0.25%
CANNOT LOCATE	1	0	1	0	0	0	0	0	0	0	0	0	2	0.12%
PAINTED OVER	0	0	0	0	0	0	2	0	0	0	0	0	2	0.12%
REFUSED ADMITTANCE	0	0	0	1	0	0	0	0	0	1	0	0	2	0.12%
SPS DEAD REGISTER	0	0	0	1	0	0	1	0	0	0	0	0	2	0.12%
ABS MCC Calc Reading	0	0	0	0	0	0	0	0	0	1	0	0	1	0.06%
Bad Ert	0	0	0	0	0	0	1	0	0	0	0	0	1	0.06%
DOG	0	0	0	1	0	0	0	0	0	0	0	0	1	0.06%
EMED Meter Maint	0	0	0	0	0	0	0	0	1	0	0	0	1	0.06%
INCLEMENT WEATHER	0	0	0	0	0	1	0	0	0	0	0	0	1	0.06%
METER BLOCKED	0	0	0	0	0	1	0	0	0	0	0	0	1	0.06%
Total	103	117	124	140	145	137	137	143	140	146	139	130	1601	100%

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

Account Class: Industrial

Message	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total**	**Percent**
NO READING RETURNED	36	32	30	29	33	35	34	21	34	40	22	45	391	91.14%
METER OFF	1	1	1	0	3	3	2	1	1	1	1	1	16	3.73%
VACANT	1	1	1	1	1	1	0	0	0	0	1	0	7	1.63%
SEASONAL	0	0	1	1	0	0	0	1	0	1	0	1	5	1.17%
ABS MCC Calc Reading	1	0	0	0	0	0	0	0	0	0	0	1	2	0.47%
DEAD REGISTER	0	0	0	1	0	0	0	0	0	0	1	0	2	0.47%
NO ANSWER	0	1	1	0	0	0	0	0	0	0	0	0	2	0.47%
CUST REQUESTS SKIP	0	0	0	1	0	0	0	0	0	0	0	0	1	0.23%
GATE PROBLEM	0	0	0	0	0	0	1	0	0	0	0	0	1	0.23%
HANDHELD ESTIMATE	1	0	0	0	0	0	0	0	0	0	0	0	1	0.23%
Non-Energized	0	0	0	0	0	0	1	0	0	0	0	0	1	0.23%
Total	40	35	34	33	37	39	38	23	35	42	25	48	429	100%

C-1. The number and percentage of other 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	4	4	5	5	5	5	4	3	4	53	86.89%
METER OFF	0	0	0	0	0	0	1	1	1	1	1	0	5	8.20%
BAD KEY OR CODE	0	0	0	0	1	0	0	0	0	0	0	0	1	1.64%
CANNOT LOCATE	0	0	1	0	0	0	0	0	0	0	0	0	1	1.64%
NO ANSWER	0	0	0	1	0	0	0	0	0	0	0	0	1	1.64%
TOTAL	5	5	5	5	5	5	6	6	6	5	4	4	61	100%

C-2. The number and percentage of residential 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	14	15	9	13	8	11	16	17	14	19	20	24	180	31.36%
NO ANSWER	10	5	14	15	24	14	12	11	15	15	8	6	149	25.96%
OC Meter Maint	4	6	4	6	2	5	5	5	5	5	6	6	59	10.28%
METER OFF	4	2	4	2	3	5	3	1	3	5	3	1	36	6.27%
DEAD REGISTER	1	2	1	1	3	3	2	1	0	2	2	1	19	3.31%
BAD KEY OR CODE	2	2	3	2	2	3	0	0	1	0	2	0	17	2.96%
DOOR LOCKED	0	0	3	0	4	1	0	0	1	1	2	2	14	2.44%
NEED KEY OR CODE	1	0	2	2	4	2	1	1	0	0	0	0	13	2.26%
UNSAFE CONDITION	1	1	1	1	1	0	0	1	0	2	3	0	11	1.92%
VACANT	2	0	1	3	3	0	0	1	0	0	1	0	11	1.92%
GATE PROBLEM	0	1	1	0	0	3	1	2	2	0	0	0	10	1.74%
METER REMOVED	1	0	0	0	1	0	2	1	1	1	1	1	9	1.57%
REFUSED ADMITTANCE	0	0	0	0	0	1	4	1	2	0	0	1	9	1.57%
NO ACCESS BACK YARD	1	0	0	2	0	0	2	0	1	2	0	0	8	1.39%
Non-Energized	0	0	1	0	1	2	1	0	0	0	0	0	5	0.87%
CUST REQUESTS SKIP	1	0	0	1	0	0	1	0	0	0	1	0	4	0.70%
METER BLOCKED	0	0	0	0	0	0	1	1	0	1	0	1	4	0.70%
DOG NEXT DOOR	0	0	1	1	0	0	0	0	0	0	0	0	2	0.35%
SEASONAL	0	0	0	0	0	0	0	0	1	0	0	1	2	0.35%
SERVICE CUT AT POLE	0	0	1	0	0	0	0	0	0	0	1	0	2	0.35%
SNOW/MUD	0	1	0	0	0	0	0	0	0	0	0	1	2	0.35%
BAD ROAD	0	0	0	0	0	0	0	0	0	1	0	0	1	0.17%
BUSINESS CLOSED	0	0	0	0	0	0	0	0	0	0	1	0	1	0.17%
DOG	0	0	0	0	0	0	0	0	0	1	0	0	1	0.17%
INCLEMENT WEATHER	1	0	0	0	0	0	0	0	0	0	0	0	1	0.17%
KEY NOT AVAILABLE	0	0	0	0	0	0	0	0	0	0	1	0	1	0.17%
OC CellNet New no premise id	0	0	0	0	0	0	0	0	1	0	0	0	1	0.17%
OC Record Mismatch	0	0	0	0	1	0	0	0	0	0	0	0	1	0.17%
REPLACE GLASS	0	0	0	0	0	0	0	1	0	0	0	0	1	0.17%
TOTAL	43	35	46	49	57	50	51	44	47	55	52	45	574	100%

C-2. The number and percentage of commercial 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	29	31	26	34	34	24	32	42	51	56	30	40	429	52%
METER OFF	10	9	8	7	15	17	14	14	13	15	7	12	141	17.09%
Non-Energized	0	0	6	5	4	5	3	6	1	4	11	4	49	5.94%
DEAD REGISTER	3	1	2	0	2	1	4	4	10	6	3	3	39	4.73%
METER REMOVED	1	2	3	2	4	2	3	2	1	2	4	2	28	3.39%
VACANT	2	2	2	2	5	2	1	2	2	2	2	2	26	3.15%
SERVICE CUT AT POLE	0	1	1	1	2	2	3	3	2	3	1	1	20	2.42%
NO ANSWER	2	1	1	3	2	1	3	1	1	2	1	1	19	2.30%
HANDHELD ESTIMATE	1	2	1	1	1	0	2	1	1	2	1	0	13	1.58%
BAD KEY OR CODE	0	0	0	0	1	3	4	4	0	0	0	0	12	1.45%
OC Meter Maint	1	0	0	0	0	1	1	2	3	1	0	1	10	1.21%
SNOW/MUD	0	4	3	0	0	0	0	0	0	0	0	1	8	0.97%
BUSINESS CLOSED	0	1	3	0	0	1	0	0	0	0	1	0	6	0.73%
GATE PROBLEM	0	0	0	0	1	3	0	0	0	0	0	0	4	0.48%
UNSAFE CONDITION	0	0	0	1	0	0	0	1	1	1	0	0	4	0.48%
BAD ROAD	0	0	1	2	0	0	0	0	0	0	0	0	3	0.36%
CUST REQUESTS SKIP	0	0	0	0	2	0	0	0	0	0	1	0	3	0.36%
DOOR LOCKED	0	0	1	1	0	0	0	0	0	0	1	0	3	0.36%
SEASONAL	1	1	1	0	0	0	0	0	0	0	0	0	3	0.36%
CANNOT LOCATE	0	0	1	0	0	0	0	0	0	0	0	0	1	0.12%
INCLEMENT WEATHER	0	0	0	0	0	1	0	0	0	0	0	0	1	0.12%
NEED KEY OR CODE	0	0	0	0	0	0	0	0	0	0	1	0	1	0.12%
PAINTED OVER	0	0	0	0	0	0	1	0	0	0	0	0	1	0.12%
REFUSED ADMITTANCE	0	0	0	0	0	0	0	0	0	1	0	0	1	0.12%
TOTAL	50	55	60	59	73	63	71	82	86	95	64	67	825	100%

C-2. The number and percentage of industrial 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	25	24	26	25	26	25	26	12	22	24	12	28	275	97.17%
METER OFF	1	1	1	0	0	0	0	0	0	0	0	0	3	1.06%
SEASONAL	0	0	0	0	0	0	0	0	0	1	0	1	2	0.71%
ABS MCC Calc Reading	1	0	0	0	0	0	0	0	0	0	0	0	1	0.35%
DEAD REGISTER	0	0	0	0	0	0	0	0	0	0	1	0	1	0.35%
NO ANSWER	0	1	0	0	0	0	0	0	0	0	0	0	1	0.35%
TOTAL	27	26	27	25	26	25	26	12	22	25	13	29	283	100%

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

Account Class: Other

Message	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total**	**Percent**
NO READING RETURNED	4	4	4	4	4	5	5	5	5	4	3	3	50	100%
TOTAL	4	4	4	4	4	5	5	5	5	4	3	3	50	100%

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

	Residential	**Commercial**	**Industrial**	**Other**	**Total**
JANUARY	1603717	161402	12863	4250	1782232
FEBRUARY	1604938	161534	12874	4251	1783597
MARCH	1605788	161618	12892	4244	1784542
APRIL	1606454	161579	12898	4241	1785172
MAY	1607661	161661	12912	4239	1786473
JUNE	1608931	161769	12925	4234	1787859
JULY	1610173	161865	12937	4234	1789209
AUGUST	1611590	161979	12955	4230	1790754
SEPTEMBER	1613166	162153	12959	4230	1792508
OCTOBER	1614243	162421	12971	4229	1793864
NOVEMBER	1615749	162715	12968	4227	1795659
DECEMBER	1617399	163022	12967	4225	1797613

**We have removed "deleted meters" from the total number of meters installed per month. The "deleted meters" designation is given to meters that were incorrectly entered into the system and were never truly installed at a premise. This ensures our data is more representative of meters in the field.

Utility	Work_Resolution	Data	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
Electric	INVESTIGATE AND REMEDIATE	Order Count	305	303	278	170	298	237	344	362	293	325	176	345	3436
		Average Days	3.49	3.45	3.79	4.24	3.66	3.15	3.33	3.36	3.62	3.04	3.03	3.68	3.47
		Min Days	1	1	1	1	0	0	1	1	1	1	1	1	0
		Max of Days	9	14	14	33	10	14	10	21	14	7	7	37	37
		StdDev of Days	1.30	1.47	1.69	2.67	1.59	1.76	1.66	1.67	1.55	1.32	1.36	2.30	1.73
	INVESTIGATE AND REFER	Order Count	27	30	20	83	22	20	35	32	29	31	12	25	366
		Average Days	3.22	4.40	4.30	2.72	3.64	3.65	3.54	3.38	3.79	4.42	2.83	4.40	3.57
		Min Days	2	2	2	1	2	2	1	1	2	1	1	2	1
		Max of Days	5	15	10	7	6	6	6	6	24	44	5	6	44
		StdDev of Days	1.25	2.81	1.95	1.37	1.40	1.53	1.46	1.45	4.04	7.50	1.19	1.41	2.90
	REMEDIATE UPON REFERRAL	Order Count							2		1				3
		Average Days							1.00		1.00				1.00
		Min Days							1		1				1
		Max of Days							1		1				1
		StdDev of Days							0.00		0.00				0.00
Electric Order Count			**332**	**333**	**298**	**253**	**320**	**257**	**381**	**394**	**323**	**356**	**188**	**370**	**3805**
Electric Average Days			**3.46**	**3.53**	**3.83**	**3.74**	**3.66**	**3.19**	**3.34**	**3.36**	**3.63**	**3.16**	**3.02**	**3.73**	**3.48**
Electric Min Days			**1**	**1**	**1**	**1**	**0**	**0**	**1**	**1**	**1**	**1**	**1**	**1**	**0**
Electric Max of Days			**9**	**15**	**14**	**33**	**10**	**14**	**10**	**21**	**24**	**44**	**7**	**37**	**44**
Electric StdDev of Days			**1.29**	**1.65**	**1.71**	**2.43**	**1.57**	**1.75**	**1.65**	**1.66**	**1.91**	**2.55**	**1.35**	**2.26**	**1.88**

Gas	INVESTIGATE AND REMEDIATE	Order Count	238	203	217	202	258	229	179	157	148	212	132	203	2378
		Average Days	5.66	4.93	4.60	4.49	5.18	5.17	4.68	5.48	4.76	4.24	3.77	5.41	4.91
		Min Days	1	1	0	0	0	1	1	0	0	0	0	0	0
		Max of Days	13	17	12	11	11	11	12	12	11	13	11	11	17
		StdDev of Days	2.57	2.77	2.37	2.40	2.29	2.13	2.09	2.21	2.48	2.56	1.95	2.47	2.43
	INVESTIGATE AND REFER	Order Count	41	62	76	84	118	89	63	50	51	47	17	48	746
		Average Days	5.32	4.94	4.20	4.21	5.36	4.91	4.05	5.48	4.80	4.00	4.18	5.65	4.79
		Min Days	2	2	1	2	2	2	2	2	2	2	2	2	1
		Max of Days	13	13	10	13	12	12	9	13	11	9	10	10	13
		StdDev of Days	2.50	2.68	1.82	2.13	2.37	2.19	1.89	2.21	2.28	1.98	2.38	2.18	2.27
	REMEDIATE UPON REFERRAL	Order Count	27	59	47	53	94	46	46	23	21	42	18	26	502
		Average Days	6.70	5.12	5.06	5.87	6.71	7.09	6.13	4.52	8.52	4.07	6.06	6.54	5.98
		Min Days	0	0	1	1	0	1	1	0	0	0	1	0	0
		Max of Days	26	28	19	19	32	35	18	19	38	14	21	24	38
		StdDev of Days	5.86	5.48	3.90	4.24	6.19	7.07	4.31	4.92	9.86	3.60	5.35	6.79	5.67
Gas Order Count			**306**	**324**	**340**	**339**	**470**	**364**	**288**	**230**	**220**	**301**	**167**	**277**	**3626**
Gas Average Days			**5.71**	**4.96**	**4.58**	**4.64**	**5.53**	**5.35**	**4.77**	**5.38**	**5.13**	**4.18**	**4.06**	**5.56**	**5.03**
Gas Min Days			**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**
Gas Max of Days			**26**	**28**	**19**	**19**	**32**	**35**	**18**	**19**	**38**	**14**	**21**	**24**	**38**
Gas StdDev of Days			**3.00**	**3.40**	**2.54**	**2.75**	**3.50**	**3.27**	**2.61**	**2.60**	**3.92**	**2.64**	**2.64**	**3.09**	**3.09**
Total E & G Order Count			**638**	**657**	**638**	**593**	**791**	**622**	**669**	**625**	**547**	**658**	**355**	**648**	**7441**
Total E & G Average Days			**4.54**	**4.24**	**4.23**	**4.25**	**4.77**	**4.45**	**3.96**	**4.11**	**4.24**	**3.63**	**3.51**	**4.53**	**4.24**
Total E & G Days Min			**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**
Total E & G Days Max			**26**	**28**	**19**	**33**	**32**	**35**	**18**	**21**	**38**	**44**	**21**	**37**	**44**
Total E & G Days Std Dev			**2.54**	**2.75**	**2.22**	**2.65**	**3.02**	**2.94**	**2.23**	**2.27**	**2.98**	**2.64**	**2.12**	**2.84**	**2.66**

EXCLUSIONS

Meter Access

Utility	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
Electric Order Count	14	9	3	42	40	25	43	17	4	38	6	3	244
Electric Average Days	159.14	158.11	69.33	114.14	45.45	223.80	175.81	119.41	47.00	153.00	122.33	203.67	135.26
Gas Order Count	28	23	36	94	45	34	99	45	21	135	31	28	619
Gas Average Days	78.07	65.91	55.75	164.72	96.42	107.85	80.36	137.78	84.33	121.43	71.23	40.82	104.80
Total E & G Order Count	42	32	39	136	85	59	142	62	25	173	37	31	863
Total E & G Average Days	105.10	91.84	56.79	149.10	72.44	156.98	109.27	132.74	78.36	128.36	79.51	56.58	113.41

Environmental

Electric Order Count	0	0	0	0	0	0	0	0	0	0	0	0	0
Electric Average Days	0	0	0	0	0	0	0	0	0	0	0	0	0

		January	February	March	April	May	June	July	August	September	October	November	December	2019
1	All **Residential** Calls offered to Agents	68,912	57,892	67,056	86,650	94,804	85,787	109,296	98,429	102,238	94,438	70,178	60,406	996,086
2	All **BSC** Calls Offered to Agents	4,806	4,097	4,537	4,696	5,110	4,215	4,950	5,578	4,447	5,212	4,156	4,171	55,975
3	All **Credit** Calls Offered to Agents	13,279	11,841	16,645	38,134	22,374	13,313	13,096	13,870	15,197	9,013	10,655	8,057	185,474
4	All **PAR** Calls Offered to Agents	2,288	1,999	2,946	6,380	6,665	5,026	5,541	5,432	5,452	3,775	3,002	2,770	51,276
5	All Calls Offered to Agents	89,285	75,829	91,184	135,860	128,953	108,341	132,883	123,309	127,334	112,438	87,991	75,404	1,288,811
6	All Calls Excluding Credit and PAR	86,997	73,830	88,238	129,480	122,288	103,315	127,342	117,877	121,882	108,663	84,989	72,634	1,237,535
7	All **Residential** Calls Answered by Agents within 20 seconds	52,101	45,733	53,439	68,576	77,191	63,339	77,642	69,836	67,461	67,636	62,679	48,673	754,306
8	All **BSC** Calls Answered by Agents within 20 seconds	3,027	2,832	3,174	3,788	4,217	3,407	3,923	4,229	3,449	3,776	3,443	3,537	42,802
9	All **Credit** Calls Answered by Agents within 20 seconds	12,191	10,546	15,006	27,048	19,847	11,965	11,353	12,009	12,016	7,702	7,894	6,763	154,340
10	All **PAR** Calls Answered by Agents within 20 seconds	2,064	1,702	2,480	4,414	4,727	3,657	3,896	3,873	3,851	3,236	2,540	2,360	38,800
11	All Calls Answered by Agents within 20 seconds	69,383	60,813	74,099	103,826	105,982	82,368	96,814	89,947	86,777	82,350	76,556	61,333	990,248
12	All Calls Answered by Agents within 20 seconds Excluding Credit and PAR	67,319	59,111	71,619	99,412	101,255	78,711	92,918	86,074	82,926	79,114	74,016	58,973	951,448
13	Non-Billing and Non-Outage Calls Completed in IVR	26,878	23,726	27,064	31,596	43,485	35,806	40,304	40,059	25,625	28,963	28,002	28,891	380,399
14	Billing Calls Handled by IVR	115,130	108,297	122,848	128,620	118,719	103,151	116,398	115,249	100,285	121,334	104,895	100,091	1,355,017
15	Outage Calls Handled by IVR	17,852	8,896	12,626	29,183	20,758	24,026	47,728	18,548	25,337	14,289	11,560	7,702	238,505
16	Outage Calls Offered to Agents	12,787	9,141	12,392	15,391	14,900	15,919	24,401	14,987	18,029	13,783	9,917	7,915	169,562
17	Total Outage Calls	30,639	18,037	25,018	44,574	35,658	39,945	72,129	33,535	43,366	28,072	21,477	15,617	408,067
18	All Calls Offered to Agents + Outage Calls Handled by IVR	107,137	84,725	103,810	165,043	149,711	132,367	180,611	141,857	152,671	126,727	99,551	83,106	1,527,316
19	All Calls Answered by Agents within 20 seconds + Outage Calls Handled by IVR	87,235	69,709	86,725	133,009	126,740	106,394	144,542	108,495	112,114	96,639	88,116	69,035	1,228,753
20	Res and BSC Calls Offered to Agents + Outage Calls Handled by IVR	104,849	82,726	100,864	158,663	143,046	127,341	175,070	136,425	147,219	122,952	96,549	80,336	1,476,040
21	Res and BSC Calls Answered by Agents within 20 seconds + Outage Calls Handled by IVR	85,171	68,007	84,245	128,595	122,013	102,737	140,646	104,622	108,263	93,403	85,576	66,675	1,189,953
22	All Calls Offered to Agents + Outage Calls Handled by IVR + Billing Calls Handled by IVR	222,267	193,022	226,658	293,663	268,430	235,518	297,009	257,106	252,956	248,061	204,446	183,197	2,882,333
23	All Calls Answered by Agents within 20 seconds + Outage Calls Handled by IVR + Billing Calls Handled by IVR	202,365	178,006	209,573	261,629	245,459	209,545	260,940	223,744	212,399	217,973	193,011	169,126	2,583,770

		January	February	March	April	May	June	July	August	September	October	November	December	2019
24	Res and BSC Calls Offered to Agents + Outage Calls Handled by IVR + Billing Calls Handled by IVR	219,979	191,023	223,712	287,283	261,765	230,492	291,468	251,674	247,504	244,286	201,444	180,427	2,831,057
25	Res and BSC Calls Answered by Agents within 20 seconds + Outage Calls Handled by IVR + Billing Calls Handled by IVR	200,301	176,304	207,093	257,215	240,732	205,888	257,044	219,871	208,548	214,737	190,471	166,766	2,544,970
26	Service Level All Calls (Residential, BSC, Credit and PAR and all calls handled by IVR)	**92.0%**	**93.1%**	**93.3%**	**90.2%**	**92.6%**	**90.4%**	**89.3%**	**88.8%**	**85.4%**	**89.1%**	**95.1%**	**93.4%**	**90.8%**
27	Service Level All Calls (Residential, BSC, Credit and PAR) and IVR Handled Outage Calls	**81.4%**	**82.3%**	**83.5%**	**80.6%**	**84.7%**	**80.4%**	**80.0%**	**76.5%**	**73.4%**	**76.3%**	**88.5%**	**83.1%**	**80.5%**
28	Service Level Res and BSC Calls, excluding Credit and calls (including outage and billing calls handled by IVR)	91.1%	92.3%	92.6%	89.5%	92.0%	89.3%	88.2%	87.4%	84.3%	87.9%	94.6%	92.4%	89.9%
29	Service Level Res and BSC Calls, excluding credit calls (not including billing calls handled by IVR)	81.2%	82.2%	83.5%	81.0%	85.3%	80.7%	80.3%	76.7%	73.5%	76.0%	88.6%	83.0%	80.6%
30	Service Level (agent only)	77.7%	80.2%	81.3%	76.4%	82.2%	76.0%	72.9%	72.9%	68.1%	73.2%	87.0%	81.3%	76.8%
31	Average Speed of Answer - ASA (Agent only Residential, BSC, Credit and PAR)	22	20	20	43	15	22	27	21	38	54	10	17	27
	ASA Residential	24	21	21	21	15	24	29	21	42	61	8	17	26
	ASA BSC	56	42	39	20	17	19	21	25	21	33	17	14	27
	ASA Credit	6	8	9	98	9	7	10	10	13	12	20	15	28
	ASA PAR	9	16	18	44	39	38	46	51	46	17	17	17	35

Notes:

13	IVR handled calls are answered immediately with an average speed to answer calls calculated using 0 seconds and includes non-billing and non-outage IVR calls that did not route to an agent. These calls may have been offered messaging that can answer many upfront questions, including but not limited to billing credits, scam information, call before you dig information, the hold time length, or will direct the caller to other resources.
26	The service level formula is: (All Calls Answered by Agents within 20 seconds + All IVR Handled calls) / (All Calls Offered to Agents + All IVR Handled Calls)
27	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)
	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 and Denver, at the Credit call centers at Amarillo, Centre Pointe and Sky Park.
	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

7826.20000 REPORTING CUSTOMER COMPLAINTS
For the period of January 1, 2019 to December 31, 2019

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

Count of Incident ID		Month												
Customer Type	Source	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
Commercial	Commission	0	1	0	1	0	2	1	1	1	6	1	6	20
	Informational	0	1	0	0	0	0	0	0	0	0	0	1	2
	Internal	1	0	1	0	0	0	0	1	0	0	0	0	3
	Officer	0	0	0	0	0	0	1	0	0	0	0	0	1
	Repeat Customer	0	0	1	0	0	0	0	0	0	0	0	0	1
Commercial Total		**1**	**2**	**2**	**1**	**0**	**2**	**2**	**2**	**1**	**6**	**1**	**7**	**27**
Residential	BBB	2	0	1	5	2	3	0	2	3	2	0	1	21
	Commission	9	11	15	30	36	27	29	19	26	12	21	135	370
	Commission/OAG	0	0	0	0	1	0	2	1	0	2	0	0	6
	Informational	2	1	0	0	1	0	1	0	2	2	1	1	11
	Internal	6	7	11	11	9	7	2	8	6	2	4	5	78
	OAG	5	5	9	37	34	28	26	27	31	6	8	2	218
	OAG/Officer	0	0	0	1	0	0	0	0	0	0	0	0	1
	Officer	1	1	3	2	3	2	3	3	1	1	1	0	21
	Referral	0	0	0	1	0	0	0	0	0	0	0	0	1
	Repeat Customer	0	0	0	0	0	0	1	0	1	0	0	0	2
Residential Total		**25**	**25**	**39**	**87**	**86**	**67**	**64**	**60**	**70**	**27**	**35**	**144**	**729**
Grand Total		**26**	**27**	**41**	**88**	**86**	**69**	**66**	**62**	**71**	**33**	**36**	**151**	**756**

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121-7th Place East
St. Paul, MN 55101-2147

7826.20000 REPORTING CUSTOMER COMPLAINTS
For the period of January 1, 2019 to December 31, 2019

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:

Count of Incident ID		Month												
Customer Type	MPUC (From Excel)	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
Commercial	Billing Error	1	0	1	1	0	0	0	1	0	1	0	1	6
	High Bill	0	0	0	0	0	1	0	0	0	1	0	0	2
	Inaccurate Metering	0	0	0	0	0	0	0	0	0	1	0	0	1
	Inadequate Service	0	2	1	0	0	0	1	1	1	1	1	6	14
	Service Extension Interval	0	0	0	0	0	1	1	0	0	2	0	0	4
Commercial Total		**1**	**2**	**2**	**1**	**0**	**2**	**2**	**2**	**1**	**6**	**1**	**7**	**27**
Residential	Billing Error	7	6	9	10	9	5	5	5	4	4	3	11	78
	High Bill	2	2	2	0	1	1	3	2	0	4	0	4	21
	Inaccurate Metering	3	5	5	7	2	5	1	2	3	2	3	5	43
	Inadequate Service	10	10	19	61	51	32	30	31	38	13	19	123	437
	Wrongful Disconnect	3	1	3	6	20	24	20	18	25	2	8	1	131
	Service Extension Interval	0	0	0	1	2	0	0	0	0	0	0	0	3
	Service Restoration Interval	0	1	1	2	1	0	5	2	0	2	2	0	16
Residential Total		**25**	**25**	**39**	**87**	**86**	**67**	**64**	**60**	**70**	**27**	**35**	**144**	**729**

Totals

Count of Incident ID	Column Labels												
Row Labels	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
Billing Error	8	6	10	11	9	5	5	6	4	5	3	12	84
High Bill	2	2	2	0	1	2	3	2	0	5	0	4	23
Inaccurate Metering	3	5	5	7	2	5	1	2	3	3	3	5	44
Inadequate Service	10	12	20	61	51	32	31	32	39	14	20	129	451
Wrongful Disconnect	3	1	3	6	20	24	20	18	25	2	8	1	131
Service Extension Interval	0	0	0	1	2	1	1	0	0	2	0	0	7
Service Restoration Interval	0	1	1	2	1	0	5	2	0	2	2	0	16
Grand Total	**26**	**27**	**41**	**88**	**86**	**69**	**66**	**62**	**71**	**33**	**36**	**151**	**756**

Percentage

Count of Incident ID		Month												
Customer Type	MPUC (From Excel)	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
Commercial	Billing Error	100.0%	0.0%	50.0%	100.0%		0.0%	0.0%	50.0%	0.0%	16.7%	0.0%	14.3%	22.2%
	High Bill	0.0%	0.0%	0.0%	0.0%		50.0%	0.0%	0.0%	0.0%	16.7%	0.0%	0.0%	7.4%
	Inaccurate Metering	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%	16.7%	0.0%	0.0%	3.7%
	Inadequate Service	0.0%	100.0%	50.0%	0.0%		0.0%	50.0%	50.0%	100.0%	16.7%	100.0%	85.7%	51.9%
	Service Extension Interval	0.0%	0.0%	0.0%	0.0%		50.0%	50.0%	0.0%	0.0%	33.3%	0.0%	0.0%	14.8%
Residential	Billing Error	28.0%	24.0%	23.1%	11.5%	10.5%	7.5%	7.8%	8.3%	5.7%	14.8%	8.6%	7.6%	10.7%
	High Bill	8.0%	8.0%	5.1%	0.0%	1.2%	1.5%	4.7%	3.3%	0.0%	14.8%	0.0%	2.8%	2.9%
	Inaccurate Metering	12.0%	20.0%	12.8%	8.0%	2.3%	7.5%	1.6%	3.3%	4.3%	7.4%	8.6%	3.5%	5.9%
	Inadequate Service	40.0%	40.0%	48.7%	70.1%	59.3%	47.8%	46.9%	51.7%	54.3%	48.1%	54.3%	85.4%	59.9%
	Wrongful Disconnect	12.0%	4.0%	7.7%	6.9%	23.3%	35.8%	31.3%	30.0%	35.7%	7.4%	22.9%	0.7%	18.0%
	Service Extension Interval	0.0%	0.0%	0.0%	1.1%	2.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%
	Service Restoration Interval	0.0%	4.0%	2.6%	2.3%	1.2%	0.0%	7.8%	3.3%	0.0%	7.4%	5.7%	0.0%	2.2%

Count of Incident ID	Column Labels												
Row Labels	1	2	3	4	5	6	7	8	9	10	11	12	Grand Tota
Billing Error	30.8%	22.2%	24.4%	12.5%	10.5%	7.2%	7.6%	9.7%	5.6%	15.2%	8.3%	7.9%	11.1%
High Bill	7.7%	7.4%	4.9%	0.0%	1.2%	2.9%	4.5%	3.2%	0.0%	15.2%	0.0%	2.6%	3.0%
Inaccurate Metering	11.5%	18.5%	12.2%	8.0%	2.3%	7.2%	1.5%	3.2%	4.2%	9.1%	8.3%	3.3%	5.8%
Inadequate Service	38.5%	44.4%	48.8%	69.3%	59.3%	46.4%	47.0%	51.6%	54.9%	42.4%	55.6%	85.4%	59.7%
Wrongful Disconnect	11.5%	3.7%	7.3%	6.8%	23.3%	34.8%	30.3%	29.0%	35.2%	6.1%	22.2%	0.7%	17.3%
Service Extension Interval	0.0%	0.0%	0.0%	1.1%	2.3%	1.4%	1.5%	0.0%	0.0%	6.1%	0.0%	0.0%	0.9%
Service Restoration Interval	0.0%	3.7%	2.4%	2.3%	1.2%	0.0%	7.6%	3.2%	0.0%	6.1%	5.6%	0.0%	2.1%
Grand Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

****Distributed Generation (DG) are included in the "Billing Error", "High Bill" & "Inadequate Service" Complaint Types. In 2019 we had approximately 6 Commercial and 136 Residential complaints regarding DG.**

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Name of Utility: Northern States Power Company
Address: 3115 Centre Pointe Drive, Roseville, MN 55113
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C. The Number and Percentage of Complaints Resolved upon:

		Month												
CustomerType	DTR Status	1 Jan-19	2 Feb-19	3 Mar-19	4 Apr-19	5 May-19	6 Jun-19	7 Jul-19	8 Aug-19	9 Sep-19	10 Oct-19	11 Nov-19	12 Dec-19	Total 2019
Commercial	Immediate	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial	10 Days or Less	1	2	2	1	0	2	2	2	1	5	1	6	25
Commercial	Greater Than 10 Days	0	0	0	0	0	0	0	0	0	1	0	1	2
Commercial Total		1	2	2	1	0	2	2	2	1	6	1	7	27
Industrial	Immediate	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial	10 Days or Less	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial	Greater Than 10 Days	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial Total		0	0	0	0	0	0	0	0	0	0	0	0	0
Residential	Immediate	6	2	7	18	11	16	15	10	13	2	2	4	106
Residential	10 Days or Less	18	19	31	63	72	48	44	45	56	25	31	140	592
Residential	Greater Than 10 Days	1	4	1	6	3	3	5	5	1	0	2	0	31
Residential Total		25	25	39	87	86	67	64	60	70	27	35	144	729
Government	Immediate	0	0	0	0	0	0	0	0	0	0	0	0	0
Government	10 Days or Less	0	0	0	0	0	0	0	0	0	0	0	0	0
Government	Greater Than 10 Days	0	0	0	0	0	0	0	0	0	0	0	0	0
Government Total		0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	Immediate	6	2	7	18	11	16	15	10	13	2	2	4	106
	10 Days or Less	19	21	33	64	72	50	46	47	57	30	32	146	617
	Greater Than 10 Days	1	4	1	6	3	3	5	5	1	1	2	1	33
Grand Total		**26**	**27**	**41**	**88**	**86**	**69**	**66**	**62**	**71**	**33**	**36**	**151**	**756**
Commercial	Immediate	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Commercial	10 Days or Less	100.0%	100.0%	100.0%	100.0%	0.0%	100.0%	100.0%	100.0%	100.0%	83.3%	100.0%	85.7%	92.6%
Commercial	Greater Than 10 Days	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	16.7%	0.0%	14.3%	7.4%
Industrial	Immediate	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Industrial	10 Days or Less	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Industrial	Greater Than 10 Days	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Residential	Immediate	24.0%	8.0%	17.9%	20.7%	12.8%	23.9%	23.4%	16.7%	18.6%	7.4%	5.7%	2.8%	14.5%
Residential	10 Days or Less	72.0%	76.0%	79.5%	72.4%	83.7%	71.6%	68.8%	75.0%	80.0%	92.6%	88.6%	97.2%	81.2%
Residential	Greater Than 10 Days	4.0%	16.0%	2.6%	6.9%	3.5%	4.5%	7.8%	8.3%	1.4%	0.0%	5.7%	0.0%	4.3%
Government	Immediate	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Government	10 Days or Less	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Government	Greater Than 10 Days	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Grand Total	Immediate	23.1%	7.4%	17.1%	20.5%	12.8%	23.2%	22.7%	16.1%	18.3%	6.1%	5.6%	2.6%	14.0%
	10 Days or Less	73.1%	77.8%	80.5%	72.7%	83.7%	72.5%	69.7%	75.8%	80.3%	90.9%	88.9%	96.7%	81.6%
	Greater Than 10 Days	3.8%	14.8%	2.4%	6.8%	3.5%	4.3%	7.6%	8.1%	1.4%	3.0%	5.6%	0.7%	4.4%

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

		Month												
CustomerType	MN_Action	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	2019
Commercial	Action not in Control of Utility	0	1	0	0	0	1	0	0	0	1	0	0	3
Commercial	Refuse Action Cust Requested	1	0	0	0	0	0	0	1	0	2	1	1	6
Commercial	Take Action Cust and Utility Agree Upon	0	0	0	0	0	0	1	0	1	0	0	5	7
Commercial	Take Action Cust Request	0	1	2	1	0	1	1	1	0	3	0	1	11
Commercial Total		1	2	2	1	0	2	2	2	1	6	1	7	27
Industrial	Action not in Control of Utility	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial	Refuse Action Cust Requested	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial	Take Action Cust and Utility Agree Upon	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial	Take Action Cust Request	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial Total		0	0	0	0	0	0	0	0	0	0	0	0	0
Residential	Action not in Control of Utility	0	3	1	10	6	5	5	7	7	2	5	1	52
Residential	Refuse Action Cust Requested	9	6	11	12	7	5	6	7	6	5	5	5	84
Residential	Take Action Cust and Utility Agree Upon	11	7	12	39	47	40	29	31	32	14	11	129	402
Residential	Take Action Cust Request	5	9	15	26	26	17	24	15	25	6	14	9	191
Residential Total		25	25	39	87	86	67	64	60	70	27	35	144	729
Government	Action not in Control of Utility	0	0	0	0	0	0	0	0	0	0	0	0	0
Government	Refuse Action Cust Requested	0	0	0	0	0	0	0	0	0	0	0	0	0
Government	Take Action Cust and Utility Agree Upon	0	0	0	0	0	0	0	0	0	0	0	0	0
Government	Take Action Cust Request	0	0	0	0	0	0	0	0	0	0	0	0	0
Government Total		0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	Action not in Control of Utility	0	4	1	10	6	6	5	7	7	3	5	1	55
	Refuse Action Cust Requested	10	6	11	12	7	5	6	8	6	7	6	6	90
	Take Action Cust and Utility Agree Upon	11	7	12	39	47	40	30	31	33	14	11	134	409
	Take Action Cust Request	5	10	17	27	26	18	25	16	25	9	14	10	202
Grand Total		26	27	41	88	86	69	66	62	71	33	36	151	756

		Month												
CustomerType	MN_Action	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	2019
Commercial	Action not in Control of Utility	0.0%	50.0%	0.0%	0.0%	0.0%	50.0%	0.0%	0.0%	0.0%	16.7%	0.0%	0.0%	11.1%
Commercial	Refuse Action Cust Requested	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	0.0%	33.3%	100.0%	14.3%	22.2%
Commercial	Take Action Cust and Utility Agree Upon	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	0.0%	100.0%	0.0%	0.0%	71.4%	25.9%
Commercial	Take Action Cust Request	0.0%	50.0%	100.0%	100.0%	0.0%	50.0%	50.0%	50.0%	0.0%	50.0%	0.0%	14.3%	40.7%
Industrial	Action not in Control of Utility	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Industrial	Refuse Action Cust Requested	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Industrial	Take Action Cust and Utility Agree Upon	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Industrial	Take Action Cust Request	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Residential	Action not in Control of Utility	0.0%	12.0%	2.6%	11.5%	7.0%	7.5%	7.8%	11.7%	10.0%	7.4%	14.3%	0.7%	7.1%
Residential	Refuse Action Cust Requested	36.0%	24.0%	28.2%	13.8%	8.1%	7.5%	9.4%	11.7%	8.6%	18.5%	14.3%	3.5%	11.5%
Residential	Take Action Cust and Utility Agree Upon	44.0%	28.0%	30.8%	44.8%	54.7%	59.7%	45.3%	51.7%	45.7%	51.9%	31.4%	89.6%	55.1%
Residential	Take Action Cust Request	20.0%	36.0%	38.5%	29.9%	30.2%	25.4%	37.5%	25.0%	35.7%	22.2%	40.0%	6.3%	26.2%
Government	Action not in Control of Utility	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Government	Refuse Action Cust Requested	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Government	Take Action Cust and Utility Agree Upon	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Government	Take Action Cust Request	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	Action not in Control of Utility	0.0%	14.8%	2.4%	11.4%	7.0%	8.7%	7.6%	11.3%	9.9%	9.1%	13.9%	0.7%	7.3%
	Refuse Action Cust Requested	38.5%	22.2%	26.8%	13.6%	8.1%	7.2%	9.1%	12.9%	8.5%	21.2%	16.7%	4.0%	11.9%
	Take Action Cust and Utility Agree Upon	42.3%	25.9%	29.3%	44.3%	54.7%	58.0%	45.5%	50.0%	46.5%	42.4%	30.6%	88.7%	54.1%
	Take Action Cust Request	19.2%	37.0%	41.5%	30.7%	30.2%	26.1%	37.9%	25.8%	35.2%	27.3%	38.9%	6.6%	26.7%

****Distributed Generation (DG) are included in the "Billing Error", "High Bill" & "Inadequate Service" Complaint Types. In 2019 we had approximately 6 Commercial and 136 Residential complaints regarding DG.**

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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

Commission	Commission

Count of Incident ID		Month												
Customer Type	Source	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
Commercial	Commission	0	1	0	1	0	2	1	1	1	6	1	6	20
Commercial Total		**0**	**1**	**0**	**1**	**0**	**2**	**1**	**1**	**1**	**6**	**1**	**6**	**20**
Residential	Commission	9	11	15	30	36	27	29	19	26	12	21	135	370
	Commission/OAG	0	0	0	0	1	0	2	1	0	2	0	0	6
Residential Total		**9**	**11**	**15**	**30**	**37**	**27**	**31**	**20**	**26**	**14**	**21**	**135**	**376**
Grand Total		**9**	**12**	**15**	**31**	**37**	**29**	**32**	**21**	**27**	**20**	**22**	**141**	**396**

Xcel Energy
Service Quality Report 2019
Minn. Rules 7826.2000

Customer Complaint Report
JANUARY, 2019

	Agree	Compromise	Demonstrate	Refuse	Total	%	Turnaround Days for Closing a Complaint: Initial Inquiry	within 10 days	Longer than 10 days
Commercial									
Billing errors	1,630	7	4	0	1,641	72.13%	1,632	8	1
Inaccurate Metering	6	0	0	0	6	0.26%	6	0	0
Wrongful Disconnect	135	2	0	0	137	6.02%	137	0	0
High Bill*	56	0	2	0	58	2.55%	58	0	0
Inadequate Service	311	3	1	0	315	13.85%	315	0	
Service Extension	0	0	0	0	0	0.00%	0	0	0
Service Restoration	116	0	2	0	118	5.19%	118	0	0
Complaint	0	0	0	0	0	0.00%	0	0	0
Total Commercial	2,254	12	9	0	2,275		2,266	8	1
Total Commercial Percentage	99.08%	0.53%	0.40%	0.00%					
Industrial									
Billing errors	314	2	2	0	318	74.65%	317	1	0
Inaccurate Metering	1	0	0	0	1	0.23%	1	0	0
Wrongful Disconnect	21	0	0	0	21	4.93%	21	0	0
High Bill*	2	0	0	0	2	0.47%	2	0	0
Inadequate Service	45	0	0	0	45	10.56%	45	0	0
Service Extension	0	0	0	0	0	0.00%	0	0	0
Service Restoration	39	0	0	0	39	9.15%	39	0	0
Total Industrial	422	2	2	0	426		425	1	0
Total Industrial Percentage	99.06%	0.47%	0.47%	0.00%					
Residential									
Billing errors	15,882	49	90	8	16,029	33.13%	16,021	7	1
Inaccurate Metering	15	0	0	0	15	0.03%	15	0	0
Wrongful Disconnect	603	4	15	0	622	1.29%	622	0	0
High Bill*	795	3	26	0	824	1.70%	823	0	1
Inadequate Service	29,365	161	95	1	29,622	61.22%	29,614	7	1
Service Extension	3	0	0	0	3	0.01%	3	0	0
Service Restoration	1,244	7	12	0	1,263	2.61%	1,263	0	0
MR-Special Call Cntr	3	0	0	0	3	0.01%	0	0	3
Complaint	1	1	0	0	2	0.00%	2	0	0
Total Residential	47,911	225	238	9	48,383		48,363	14	6
Total Residential Percentage	99.02%	0.47%	0.49%	0.02%					
Total State of Minnesota	**50,587**	**239**	**249**	**9**	**51,084**		**51,054**	**23**	**7**
Total ST of MN Percentage	**99.03%**	**0.47%**	**0.49%**	**0.02%**					

* Includes all decoupling calls, complaints of which are reported annually in separate filing on February 1st.

Xcel Energy
Service Quality Report 2019
Minn. Rules 7826.2000

Customer Complaint Report
FEBRUARY, 2019

	Agree	Compromise	Demonstrate	Refuse	Total	%	Turnaround Days for Closing a Complaint: Initial Inquiry	within 10 days	Longer than 10 days
Commercial									
Billing errors	1,470	5	3	1	1,479	72.75%	1,473	6	0
Inaccurate Metering	4	0	0	0	4	0.20%	4	0	0
Wrongful Disconnect	105	2	2	0	109	5.36%	109	0	0
High Bill*	33	1	4	0	38	1.87%	38	0	0
Inadequate Service	320	2	1	0	323	15.89%	323	0	0
Service Extension	0	0	0	0	0	0.00%	0	0	0
Service Restoration	80	0	0	0	80	3.94%	80	0	0
Complaint	0	0	0	0	0	0.00%	0	0	0
Total Commercial	2,012	10	10	1	2,033		2,027	6	0
Total Commercial Percentage	98.97%	0.49%	0.49%	0.05%					
Industrial									
Billing errors	231	0	0	0	231	73.57%	231	0	0
Inaccurate Metering	0	0	0	0	0	0.00%	0	0	0
Wrongful Disconnect	18	0	0	0	18	5.73%	18	0	0
High Bill*	4	0	0	0	4	1.27%	4	0	0
Inadequate Service	34	1	0	0	35	11.15%	35	0	0
Service Extension	0	0	0	0	0	0.00%	0	0	0
Service Restoration	24	2	0	0	26	8.28%	26	0	0
Total Industrial	311	3	0	0	314		314	0	0
Total Industrial Percentage	99.04%	0.96%	0.00%	0.00%					
Residential									
Billing errors	13,551	44	92	6	13,693	35.34%	13,687	6	0
Inaccurate Metering	14	0	2	0	16	0.04%	16	0	0
Wrongful Disconnect	555	5	22	0	582	1.50%	582	0	0
High Bill*	478	4	15	0	497	1.28%	497	0	0
Inadequate Service	23,112	100	120	2	23,334	60.22%	23,332	1	1
Service Extension	4	0	1	0	5	0.01%	5	0	0
Service Restoration	617	1	4	0	622	1.61%	622	0	0
MR-Special Call Cntr	2	0	0	0	2	0.01%	0	2	0
Complaint	0	0	0	0	0	0.00%	0	0	0
Total Residential	38,333	154	256	8	38,751		38,741	9	1
Total Residential Percentage	98.92%	0.40%	0.66%	0.02%					
Total State of Minnesota	**40,656**	**167**	**266**	**9**	**41,098**		**41,082**	**15**	**1**
Total ST of MN Percentage	**98.92%**	**0.41%**	**0.65%**	**0.02%**					

* Includes Decoupling Complaints which are reported annually in separate filing on February 1st.

Xcel Energy
Service Quality Report 2019
Minn. Rules 7826.2000

Customer Complaint Report
MARCH, 2019

	Agree	Compromise	Demonstrate	Refuse	Total	%	Turnaround Days for Closing a Complaint: Initial Inquiry	within 10 days	Longer than 10 days
Commercial									
Billing errors	1,579	2	5	0	1,586	69.93%	1,580	6	0
Inaccurate Metering	12	0	1	0	13	0.57%	12	1	0
Wrongful Disconnect	162	4	1	0	167	7.36%	167	0	0
High Bill*	37	0	1	0	38	1.68%	38	0	0
Inadequate Service	318	2	3	0	323	14.24%	322	1	0
Service Extension	2	0	0	0	2	0.09%	2	0	0
Service Restoration	134	1	4	0	139	6.13%	139	0	0
Complaint	0	0	0	0	0	0.00%	0	0	0
Total Commercial	2,244	9	15	0	2,268		2,260	8	0
Total Commercial Percentage	98.94%	0.40%	0.66%	0.00%					
Industrial									
Billing errors	385	0	1	0	386	75.39%	383	3	0
Inaccurate Metering	0	0	0	0	0	0.00%	0	0	0
Wrongful Disconnect	15	1	0	0	16	3.13%	16	0	0
High Bill*	4	0	0	0	4	0.78%	4	0	0
Inadequate Service	52	1	0	0	53	10.35%	53	0	0
Service Extension	0	0	0	0	0	0.00%	0	0	0
Service Restoration	53	0	0	0	53	10.35%	52	1	0
Total Industrial	509	2	1	0	512		508	4	0
Total Industrial Percentage	99.41%	0.39%	0.20%	0.00%					
Residential									
Billing errors	16,138	58	101	8	16,305	33.60%	16,297	7	1
Inaccurate Metering	46	0	1	0	47	0.10%	47	0	0
Wrongful Disconnect	792	7	14	0	813	1.68%	813	0	0
High Bill*	483	1	17	1	502	1.03%	502	0	0
Inadequate Service	29,786	131	132	5	30,054	61.94%	30,048	6	0
Service Extension	4	0	2	0	6	0.01%	6	0	0
Service Restoration	767	5	18	0	790	1.63%	790	0	0
MR-Special Call Cntr	2	0	0	0	2	0.00%	0	1	1
Complaint	1	0	0	0	1	0.00%	0	1	0
Total Residential	48,019	202	285	14	48,520		48,503	15	2
Total Residential Percentage	98.97%	0.42%	0.59%	0.03%					
Total State of Minnesota	**50,772**	**213**	**301**	**14**	**51,300**		**53,064**	**27**	**2**
Total ST of MN Percentage	**98.97%**	**0.42%**	**0.59%**	**0.03%**					

* Includes Decoupling Complaints which are reported annually in separate filing on February 1st.

Xcel Energy
Service Quality Report 2019
Minn. Rules 7826.2000

Customer Complaint Report
APRIL, 2019

	Agree	Compromise	Demonstrate	Refuse	Total	%	Turnaround Days for Closing a Complaint: Initial Inquiry	within 10 days	Longer than 10 days
Commercial									
Billing errors	1,508	3	5	1	1,517	70.33%	1,510	6	1
Inaccurate Metering	7	0	0	0	7	0.32%	7	0	0
Wrongful Disconnect	135	2	1	0	138	6.40%	138	0	0
High Bill*	25	2	2	0	29	1.34%	29	0	0
Inadequate Service	266	2	1	0	269	12.47%	269	0	0
Service Extension	0	0	0	0	0	0.00%	0	0	0
Service Restoration	196	0	1	0	197	9.13%	197	0	0
Complaint	0	0	0	0	0	0.00%	0	0	0
Total Commercial	2,137	9	10	1	2,157		2,150	6	1
Total Commercial Percentage	99.07%	0.42%	0.46%	0.05%					
Industrial									
Billing errors	286	1	1	0	288	73.28%	286	2	0
Inaccurate Metering	0	0	0	0	0	0.00%	0	0	0
Wrongful Disconnect	18	0	0	0	18	4.58%	18	0	0
High Bill*	2	0	0	0	2	0.51%	2	0	0
Inadequate Service	37	1	0	0	38	9.67%	38	0	0
Service Extension	0	0	0	0	0	0.00%	0	0	0
Service Restoration	45	0	2	0	47	11.96%	47	0	0
Total Industrial	388	2	3	0	393		391	2	0
Total Industrial Percentage	98.73%	0.51%	0.76%	0.00%					
Residential									
Billing errors	18,466	48	97	7	18,618	29.77%	18,610	8	0
Inaccurate Metering	15	1	3	0	19	0.03%	19	0	0
Wrongful Disconnect	5,584	59	154	2	5,799	9.27%	5,796	3	0
High Bill*	318	3	9	0	330	0.53%	330	0	0
Inadequate Service	35,726	239	215	4	36,184	57.87%	36,174	9	1
Service Extension	9	0	3	0	12	0.02%	12	0	0
Service Restoration	1,548	8	10	1	1,567	2.51%	1,567	0	0
MR-Special Call Cntr	0	0	0	0	0	0.00%	0	0	0
Complaint	1	0	0	0	1	0.00%	0	1	0
Total Residential	61,667	358	491	14	62,530		62,508	21	1
Total Residential Percentage	98.62%	0.57%	0.79%	0.02%					
Total State of Minnesota	**64,192**	**369**	**504**	**15**	**65,080**		**65,049**	**29**	**2**
Total ST of MN Percentage	**98.64%**	**0.57%**	**0.77%**	**0.02%**					

* Includes Decoupling Complaints which are reported annually in separate filing on February 1st.

Xcel Energy
Service Quality Report 2019
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Customer Complaint Report
MAY, 2019

	Agree	Compromise	Demonstrate	Refuse	Total	%	Turnaround Days for Closing a Complaint: Initial Inquiry	within 10 days	Longer than 10 days
Commercial									
Billing errors	1,878	4	4	0	1,886	81.75%	1,880	5	1
Inaccurate Metering	3	0	0	0	3	0.13%	3	0	0
Wrongful Disconnect	93	1	1	0	95	4.12%	95	0	0
High Bill*	15	1	3	0	19	0.82%	18	1	0
Inadequate Service	173	7	0	0	180	7.80%	180	0	0
Service Extension	0	0	0	0	0	0.00%	0	0	0
Service Restoration	123	0	1	0	124	5.37%	124	0	0
Complaint	0	0	0	0	0	0.00%	0	0	0
Total Commercial	2,285	13	9	0	2,307		2,300	6	1
Total Commercial Percentage	99.05%	0.56%	0.39%	0.00%					
Industrial									
Billing errors	368	1	3	0	372	79.15%	369	3	0
Inaccurate Metering	0	0	0	0	0	0.00%	0	0	0
Wrongful Disconnect	10	1	0	0	11	2.34%	11	0	0
High Bill*	2	1	0	0	3	0.64%	3	0	0
Inadequate Service	49	1	0	0	50	10.64%	50	0	0
Service Extension	0	0	0	0	0	0.00%	0	0	0
Service Restoration	33	0	1	0	34	7.23%	34	0	0
Total Industrial	462	4	4	0	470		467	3	0
Total Industrial Percentage	98.30%	0.85%	0.85%	0.00%					
Residential									
Billing errors	23,669	57	96	4	23,826	46.55%	23,820	5	1
Inaccurate Metering	10	0	0	0	10	0.02%	9	1	0
Wrongful Disconnect	6,779	97	204	1	7,081	13.83%	7,081	0	0
High Bill*	160	1	1	0	162	0.32%	162	0	0
Inadequate Service	18,838	137	192	3	19,170	37.45%	19,166	4	0
Service Extension	9	0	0	0	9	0.02%	9	0	0
Service Restoration	907	1	15	0	923	1.80%	922	1	0
MR-Special Call Cntr	0	0	0	0	0	0.00%	0	0	0
Complaint	3	1	0	0	4	0.01%	1	3	0
Total Residential	50,375	294	508	8	51,185		51,170	14	1
Total Residential Percentage	98.42%	0.57%	0.99%	0.02%					
Total State of Minnesota	**53,122**	**311**	**521**	**8**	**53,962**		**53,937**	**23**	**2**
Total ST of MN Percentage	**98.44%**	**0.58%**	**0.97%**	**0.01%**					

* Includes Decoupling Complaints which are reported annually in separate filing on February 1st.

Xcel Energy
Service Quality Report 2019
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Customer Complaint Report
JUNE, 2019

	Agree	Compromise	Demonstrate	Refuse	Total	%	Turnaround Days for Closing a Complaint: Initial Inquiry	within 10 days	Longer than 10 days
Commercial									
Billing errors	1,381	4	2	0	1,387	77.92%	1,384	3	0
Inaccurate Metering	1	0	0	0	1	0.06%	1	0	0
Wrongful Disconnect	87	2	1	0	90	5.06%	90	0	0
High Bill*	15	0	0	0	15	0.84%	15	0	0
Inadequate Service	176	0	2	0	178	10.00%	178	0	0
Service Extension	0	0	0	0	0	0.00%	0	0	0
Service Restoration	108	0	1	0	109	6.12%	109	0	0
Complaint	0	0	0	0	0	0.00%	0	0	0
Total Commercial	1,768	6	6	0	1,780		1,777	3	0
Total Commercial Percentage	99.33%	0.34%	0.34%	0.00%					
Industrial									
Billing errors	289	2	0	0	291	76.58%	291	0	0
Inaccurate Metering	1	0	0	0	1	0.26%	1	0	0
Wrongful Disconnect	16	0	0	0	16	4.21%	16	0	0
High Bill*	1	0	0	0	1	0.26%	1	0	0
Inadequate Service	24	0	0	0	24	6.32%	23	1	0
Service Extension	0	0	0	0	0	0.00%	0	0	0
Service Restoration	47	0	0	0	47	12.37%	47	0	0
Total Industrial	378	2	0	0	380		379	1	0
Total Industrial Percentage	99.47%	0.53%	0.00%	0.00%					
Residential									
Billing errors	20,334	56	109	4	20,503	50.99%	20,497	5	1
Inaccurate Metering	11	0	2	0	13	0.03%	13	0	0
Wrongful Disconnect	4,633	30	94	4	4,761	11.84%	4,761	0	0
High Bill*	212	2	9	0	223	0.55%	223	0	0
Inadequate Service	13,598	66	107	3	13,774	34.25%	13,769	5	0
Service Extension	8	0	4	0	12	0.03%	12	0	0
Service Restoration	901	4	13	0	918	2.28%	918	0	0
MR-Special Call Cntr	1	0	0	0	1	0.00%	0	1	0
Complaint	6	0	1	0	7	0.02%	6	1	0
Total Residential	39,704	158	339	11	40,212		40,199	12	1
Total Residential Percentage	98.74%	0.39%	0.84%	0.03%					
Total State of Minnesota	**41,850**	**166**	**345**	**11**	**42,372**		**42,355**	**16**	**1**
Total ST of MN Percentage	**98.77%**	**0.39%**	**0.81%**	**0.03%**					

* Includes Decoupling Complaints which are reported annually in separate filing on February 1st.

Xcel Energy
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Customer Complaint Report
JULY, 2019

	Agree	Compromise	Demonstrate	Refuse	Total	%	Turnaround Days for Closing a Complaint: Initial Inquiry	within 10 days	Longer than 10 days
Commercial									
Billing errors	1,492	6	2	0	1,500	74.89%	1,492	6	2
Inaccurate Metering	3	0	1	0	4	0.20%	4	0	0
Wrongful Disconnect	101	1	0	0	102	5.09%	102	0	0
High Bill*	40	0	0	0	40	2.00%	40	0	0
Inadequate Service	198	4	2	0	204	10.18%	204	0	0
Service Extension	0	0	0	0	0	0.00%	0	0	0
Service Restoration	151	1	1	0	153	7.64%	153	0	0
Complaint	0	0	0	0	0	0.00%	0	0	0
Total Commercial	1,985	12	6	0	2,003		1,995	6	2
Total Commercial Percentage	99.10%	0.60%	0.30%	0.00%					
Industrial									
Billing errors	367	1	1	0	369	72.21%	365	2	2
Inaccurate Metering	0	0	0	0	0	0.00%	0	0	0
Wrongful Disconnect	19	0	0	0	19	3.72%	19	0	0
High Bill*	3	0	0	0	3	0.59%	3	0	0
Inadequate Service	35	0	0	0	35	6.85%	35	0	0
Service Extension	0	0	0	0	0	0.00%	0	0	0
Service Restoration	85	0	0	0	85	16.63%	85	0	0
Total Industrial	509	1	1	0	511		507	2	2
Total Industrial Percentage	99.61%	0.20%	0.20%	0.00%					
Residential									
Billing errors	24,487	68	123	13	24,691	51.27%	24,687	4	0
Inaccurate Metering	14	0	1	0	15	0.03%	15	0	0
Wrongful Disconnect	4,480	50	77	2	4,609	9.57%	4,608	1	0
High Bill*	427	2	10	0	439	0.91%	439	0	0
Inadequate Service	16,378	92	118	5	16,593	34.45%	16,591	2	0
Service Extension	5	0	1	0	6	0.01%	6	0	0
Service Restoration	1,768	5	29	1	1,803	3.74%	1,802	0	1
MR-Special Call Cntr	0	0	0	0	0	0.00%	0	0	0
Complaint	3	0	0	0	3	0.01%	1	2	0
Total Residential	47,562	217	359	21	48,159		48,149	9	1
Total Residential Percentage	98.76%	0.45%	0.75%	0.04%					
Total State of Minnesota	**50,056**	**230**	**366**	**21**	**50,673**		**50,651**	**17**	**5**
Total ST of MN Percentage	**98.78%**	**0.45%**	**0.72%**	**0.04%**					

* Includes Decoupling Complaints which are reported annually in separate filing on February 1st.

Xcel Energy
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Customer Complaint Report
AUGUST, 2019

	Agree	Compromise	Demonstrate	Refuse	Total	%	Turnaround Days for Closing a Complaint: Initial Inquiry	within 10 days	Longer than 10 days
Commercial									
Billing errors	1,983	4	7	0	1,994	80.21%	1,991	3	0
Inaccurate Metering	3	0	0	0	3	0.12%	3	0	0
Wrongful Disconnect	105	2	0	0	107	4.30%	107	0	0
High Bill*	50	0	3	0	53	2.13%	52	1	0
Inadequate Service	198	1	0	1	200	8.05%	200	0	0
Service Extension	1	0	0	0	1	0.04%	1	0	0
Service Restoration	125	1	2	0	128	5.15%	128	0	0
Complaint	0	0	0	0	0	0.00%	0	0	0
Total Commercial	2,465	8	12	1	2,486		2,482	4	0
Total Commercial Percentage	99.16%	0.32%	0.48%	0.04%					
Industrial									
Billing errors	359	0	1	0	360	74.23%	356	4	0
Inaccurate Metering	2	0	0	0	2	0.41%	2	0	0
Wrongful Disconnect	20	0	0	0	20	4.12%	20	0	0
High Bill*	3	0	1	0	4	0.82%	4	0	0
Inadequate Service	53	0	0	0	53	10.93%	53	0	0
Service Extension	0	0	0	0	0	0.00%	0	0	0
Service Restoration	45	0	1	0	46	9.48%	46	0	0
Total Industrial	482	0	3	0	485		481	4	0
Total Industrial Percentage	99.38%	0.00%	0.62%	0.00%					
Residential									
Billing errors	23,543	77	134	11	23,765	53.70%	23,763	2	0
Inaccurate Metering	8	0	0	0	8	0.02%	8	0	0
Wrongful Disconnect	4,470	44	82	3	4,599	10.39%	4,598	1	0
High Bill*	704	4	22	1	731	1.65%	731	0	0
Inadequate Service	14,079	86	145	1	14,311	32.34%	14,303	7	1
Service Extension	3	0	1	0	4	0.01%	4	0	0
Service Restoration	818	3	11	0	832	1.88%	831	1	0
MR-Special Call Cntr	0	0	0	0	0	0.00%	0	0	0
Complaint	3	1	0	1	5	0.01%	3	2	0
Total Residential	43,628	215	395	17	44,255		44,241	13	1
Total Residential Percentage	98.58%	0.49%	0.89%	0.04%					
Total State of Minnesota	**46,575**	**223**	**410**	**18**	**47,226**		**47,204**	**21**	**1**
Total ST of MN Percentage	**98.62%**	**0.47%**	**0.87%**	**0.04%**					

* Includes Decoupling Complaints which are reported annually in separate filing on February 1st.

Xcel Energy
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Customer Complaint Report
SEPTEMBER, 2019

	Agree	Compromise	Demonstrate	Refuse	Total	%	Turnaround Days for Closing a Complaint: Initial Inquiry	within 10 days	Longer than 10 days
Commercial									
Billing errors	1,341	5	5	1	1,352	78.11%	1,347	5	0
Inaccurate Metering	3	0	0	0	3	0.17%	3	0	0
Wrongful Disconnect	78	1	0	0	79	4.56%	79	0	0
High Bill*	30	0	0	0	30	1.73%	30	0	0
Inadequate Service	138	2	3	0	143	8.26%	143	0	0
Service Extension	0	0	0	0	0	0.00%	0	0	0
Service Restoration	124	0	0	0	124	7.16%	124	0	0
Complaint	0	0	0	0	0	0.00%	0	0	0
Total Commercial	1,714	8	8	1	1,731		1,726	5	0
Total Commercial Percentage	99.02%	0.46%	0.46%	0.06%					
Industrial									
Billing errors	263	0	1	0	264	68.39%	261	3	0
Inaccurate Metering	1	0	0	0	1	0.26%	1	0	0
Wrongful Disconnect	26	0	0	0	26	6.74%	26	0	0
High Bill*	0	0	0	0	0	0.00%	0	0	0
Inadequate Service	33	0	0	0	33	8.55%	33	0	0
Service Extension	0	0	0	0	0	0.00%	0	0	0
Service Restoration	61	1	0	0	62	16.06%	62	0	0
Total Industrial	384	1	1	0	386		383	3	0
Total Industrial Percentage	99.48%	0.26%	0.26%	0.00%					
Residential									
Billing errors	16,915	49	99	5	17,068	48.50%	17,067	1	0
Inaccurate Metering	4	0	1	0	5	0.01%	5	0	0
Wrongful Disconnect	4,217	23	58	3	4,301	12.22%	4,301	0	0
High Bill*	290	1	12	0	303	0.86%	303	0	0
Inadequate Service	12,455	41	104	5	12,605	35.82%	12,601	4	0
Service Extension	2	0	4	0	6	0.02%	6	0	0
Service Restoration	877	2	18	0	897	2.55%	897	0	0
MR-Special Call Cntr	2	0	0	0	2	0.01%	0	2	0
Complaint	3	0	0	0	3	0.01%	0	3	0
Total Residential	34,765	116	296	13	35,190		35,180	10	0
Total Residential Percentage	98.79%	0.33%	0.84%	0.04%					
Total State of Minnesota	**36,863**	**125**	**305**	**14**	**37,307**		**37,289**	**18**	**0**
Total ST of MN Percentage	**98.81%**	**0.34%**	**0.82%**	**0.04%**					

* Includes Decoupling Complaints which are reported annually in separate filing on February 1st.

Xcel Energy
Service Quality Report 2019
Minn. Rules 7826.2000

Customer Complaint Report
OCTOBER, 2019

	Agree	Compromise	Demonstrate	Refuse	Total	%	Turnaround Days for Closing a Complaint: Initial Inquiry	within 10 days	Longer than 10 days
Commercial									
Billing errors	1,822	9	2	0	1,833	79.97%	1,825	8	0
Inaccurate Metering	3	0	0	0	3	0.13%	3	0	0
Wrongful Disconnect	71	0	0	0	71	3.10%	71	0	0
High Bill*	27	2	2	0	31	1.35%	30	1	0
Inadequate Service	230	1	1	0	232	10.12%	231	1	0
Service Extension	1	0	0	0	1	0.04%	1	0	0
Service Restoration	118	1	2	0	121	5.28%	121	0	0
Complaint	0	0	0	0	0	0.00%	0	0	0
Total Commercial	2,272	13	7	0	2,292		2,282	10	0
Total Commercial Percentage	99.13%	0.57%	0.31%	0.00%					
Industrial									
Billing errors	357	2	0	0	359	74.64%	357	1	1
Inaccurate Metering	1	0	0	0	1	0.21%	1	0	0
Wrongful Disconnect	7	1	0	0	8	1.66%	8	0	0
High Bill*	1	0	0	0	1	0.21%	1	0	0
Inadequate Service	59	0	0	0	59	12.27%	59	0	0
Service Extension	0	0	0	0	0	0.00%	0	0	0
Service Restoration	51	0	2	0	53	11.02%	53	0	0
Total Industrial	476	3	2	0	481		479	1	1
Total Industrial Percentage	98.96%	0.62%	0.42%	0.00%					
Residential									
Billing errors	21,905	46	127	8	22,086	57.32%	22,076	10	0
Inaccurate Metering	11	0	1	0	12	0.03%	12	0	0
Wrongful Disconnect	1,922	6	21	0	1,949	5.06%	1,949	0	0
High Bill*	264	0	7	1	272	0.71%	272	0	0
Inadequate Service	13,310	58	120	3	13,491	35.01%	13,481	9	1
Service Extension	5	0	4	0	9	0.02%	9	0	0
Service Restoration	699	4	7	0	710	1.84%	710	0	0
MR-Special Call Cntr	1	0	0	0	1	0.00%	0	1	0
Complaint	1	0	0	0	1	0.00%	0	1	0
Total Residential	38,118	114	287	12	38,531		38,509	21	1
Total Residential Percentage	98.93%	0.30%	0.74%	0.03%					
Total State of Minnesota	**40,866**	**130**	**296**	**12**	**41,304**		**41,270**	**32**	**2**
Total ST of MN Percentage	**98.94%**	**0.31%**	**0.72%**	**0.03%**					

* Includes Decoupling Complaints which are reported annually in separate filing on February 1st.

Xcel Energy
Service Quality Report 2019
Minn. Rules 7826.2000

Customer Complaint Report
NOVEMBER, 2019

	Agree	Compromise	Demonstrate	Refuse	Total	%	Turnaround Days for Closing a Complaint: Initial Inquiry	Turnaround Days for Closing a Complaint: within 10 days	Turnaround Days for Closing a Complaint: Longer than 10 days
Commercial									
Billing errors	1,462	1	1	0	1,464	79.78%	1,457	7	0
Inaccurate Metering	4	0	0	0	4	0.22%	4	0	0
Wrongful Disconnect	81	0	0	0	81	4.41%	81	0	0
High Bill*	17	0	1	0	18	0.98%	18	0	0
Inadequate Service	169	0	2	0	171	9.32%	171	0	0
Service Extension	0	0	0	0	0	0.00%	0	0	0
Service Restoration	94	2	1	0	97	5.29%	96	1	0
Complaint	0	0	0	0	0	0.00%	0	0	0
Total Commercial	1,827	3	5	0	1,835		1,827	8	0
Total Commercial Percentage	99.56%	0.16%	0.27%	0.00%					
Industrial									
Billing errors	270	1	0	0	271	75.28%	268	3	0
Inaccurate Metering	0	0	0	0	0	0.00%	0	0	0
Wrongful Disconnect	14	0	0	0	14	3.89%	14	0	0
High Bill*	4	0	0	0	4	1.11%	4	0	0
Inadequate Service	40	0	0	0	40	11.11%	40	0	0
Service Extension	0	0	0	0	0	0.00%	0	0	0
Service Restoration	30	1	0	0	31	8.61%	30	1	0
Total Industrial	358	2	0	0	360		356	4	0
Total Industrial Percentage	99.44%	0.56%	0.00%	0.00%					
Residential									
Billing errors	17,609	53	80	5	17,747	50.52%	17,743	3	1
Inaccurate Metering	13	0	0	0	13	0.04%	13	0	0
Wrongful Disconnect	1,938	9	23	1	1,971	5.61%	1,971	0	0
High Bill*	163	0	4	0	167	0.48%	167	0	0
Inadequate Service	14,548	54	80	0	14,682	41.79%	14,677	5	0
Service Extension	0	0	1	0	1	0.00%	1	0	0
Service Restoration	535	2	9	1	547	1.56%	546	1	0
MR-Special Call Cntr	0	0	0	0	0	0.00%	0	0	0
Complaint	1	0	0	0	1	0.00%	1	0	0
Total Residential	34,807	118	197	7	35,129		35,119	9	1
Total Residential Percentage	99.08%	0.34%	0.56%	0.02%					
Total State of Minnesota	**36,992**	**123**	**202**	**7**	**37,324**		**37,302**	**21**	**1**
Total ST of MN Percentage	**99.11%**	**0.33%**	**0.54%**	**0.02%**					

* Includes Decoupling Complaints which are reported annually in separate filing on February 1st.

Xcel Energy
Service Quality Report 2019
Minn. Rules 7826.2000

Customer Complaint Report
DECEMBER, 2019

	Agree	Compromise	Demonstrate	Refuse	Total	%	Turnaround Days for Closing a Complaint: Initial Inquiry	within 10 days	Longer than 10 days
Commercial									
Billing errors	1390	3	1	0	1,394	81.00%	1,389	4	1
Inaccurate Metering	1	0	0	0	1	0.06%	1	0	0
Wrongful Disconnect	64	0	0	0	64	3.72%	64	0	0
High Bill*	18	0	1	0	19	1.10%	19	0	0
Inadequate Service	177	0	2	0	179	10.40%	178	1	0
Service Extension	0	0	0	0	0	0.00%	0	0	0
Service Restoration	64	0	0	0	64	3.72%	64	0	0
Complaint	0	0	0	0	0	0.00%	0	0	0
Total Commercial	1,714	3	4	0	1,721		1,715	5	1
Total Commercial Percentage	99.59%	0.17%	0.23%	0.00%					
Industrial									
Billing errors	293	2	0	0	295	76.62%	293	1	1
Inaccurate Metering	0	0	0	0	0	0.00%	0	0	0
Wrongful Disconnect	21	0	0	0	21	5.45%	21	0	0
High Bill*	5	0	0	0	5	1.30%	5	0	0
Inadequate Service	51	0	1	0	52	13.51%	52	0	0
Service Extension	0	0	0	0	0	0.00%	0	0	0
Service Restoration	12	0	0	0	12	3.12%	12	0	0
Total Industrial	382	2	1	0	385		383	1	1
Total Industrial Percentage	99.22%	0.52%	0.26%	0.00%					
Residential									
Billing errors	15,698	49	60	9	15,816	53.60%	15,815	1	0
Inaccurate Metering	7	0	0	0	7	0.02%	7	0	0
Wrongful Disconnect	1,357	10	11	2	1,380	4.68%	1,379	1	0
High Bill*	210	1	5	0	216	0.73%	216	0	0
Inadequate Service	11,587	57	63	2	11,709	39.68%	11,703	4	2
Service Extension	0	0	1	0	1	0.00%	1	0	0
Service Restoration	364	3	9	1	377	1.28%	377	0	0
MR-Special Call Cntr	0	0	1	0	1	0.00%	1	0	0
Complaint	0	0	0	0	0	0.00%	0	0	0
Total Residential	29,223	120	150	14	29,507		29,499	6	2
Total Residential Percentage	99.04%	0.41%	0.51%	0.05%					
Total State of Minnesota	**31,319**	**125**	**155**	**14**	**31,613**		**31,597**	**12**	**4**
Total ST of MN Percentage	**99.07%**	**0.40%**	**0.49%**	**0.04%**					

* Includes Decoupling Complaints which are reported annually in separate filing on February 1st.

CERTIFICATE OF SERVICE

I, Lynnette Sweet, 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; or

xx by electronic filing.

MPUC Docket No: E002/M-20-406

Dated this 3rd day of April 2020.

/s/

_____

Lynnette Sweet
Regulatory Administrator

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