414 Nicollet Mall
Minneapolis, MN 55401

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April 1, 2021

—VIA ELECTRONIC FILING—

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

RE: 2020 ANNUAL REPORT AND PETITION
SERVICE QUALITY PERFORMANCE AND PROPOSED RELIABILITY MEASURES
DOCKET NO. E002/M-21-___

Dear Mr. Seuffert:

Northern States Power Company, doing business as Xcel Energy, submits the enclosed 2020 Electric Annual Service Quality Performance Report and Petition of Northern States Power Company, requesting the Commission accept our 2020 report and approve our proposed reliability standards for 2021.

Security, Trade Secret, and Private Data on Individuals Justification
This submission contains information regarding the Company's feeders and other system components, and associated customers served. This information is "security information" as defined by Minn. Stat. § 13.37, subd. 1(a). As we have explained in past filings related to our treatment of customer data, we take our responsibility for all of the data we maintain in order to provide our customers with reliable and safe service very seriously.

Nearly daily, we hear about data breaches impacting individuals and organizations. Responsible access to sensitive data must be balanced with accountability for third parties to demonstrate their actions with the data will be in the public interest before gaining access. Additionally, as we have pointed out in the past with respect to utility release of customer data, once released by the utility, the Commission will have no

jurisdiction over third parties – and the utilities lose any ability to control its use, sale, or other dissemination.

Our company principles are:

- Maintain customer privacy, confidentiality, and security in terms of their usage and how they are connected to the grid
- Avoid revealing details that would give a bad actor information to target an attack for maximum impact (ex. Peak load, equipment capacities, number of customers, how critical infrastructure is connected to the grid, etc.)

Attachment M to this filing contains information that the Company believes could be manipulated to reveal the location and size of facilities serving our customers. The public disclosure or use of this information creates a risk because those who want to disrupt the electrical grid for political or other reasons may learn which facilities to target to create the greatest disruption. For this reason, pursuant to Minn. Stat. § 13.37, subd. 2, we have excised this data from the public version of our filing.

This submission also contains settlement information one claim 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 filing.

Finally, our report includes customer satisfaction survey data from external sources. The external customer survey data has been marked Non-Public as defined by Minn. Stat. § 13.37, subd. 1(b). This data came from a subscription with J.D. Power, and the subscription requires the Company to keep some of the data confidential. In addition, 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.

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

Please contact Pamela Gibbs at pamela.k.gibbs@xcelenergy.com or (612) 330-2889 or me at gail.baranko@xcelenergy.com or (612) 330-6935 if you have any questions regarding this filing.

Sincerely,

/s/

GAIL BARANKO
REGULATORY MANAGER

Enclosures
c: Service List

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 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
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
	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-20-406; December 18, 2020 Order	3. Continue filing quarterly status reports on efforts to improve reliability in the Southeast Work Center through fourth quarter 2021.	The Company will continue to submit these quarterly reports.
	4. The Commission grants a variance to Minn. R. 7826.0500, subp.1, item G, applicable to MP, OTP and Xcel. The utilities must file a summary table that includes the information contained in the reports, similar to Att G of Xcel's filing	Attachment G
	5. Utilities must file the reliability (SAIDI, SAIFI, CAIDI, MAIFI, normalized/non-normalized) for feeders with grid modernization investments such as Advanced Metering Infractructure or Fault Location Isolation and Service Restoration to the historic five-year average reliability for the same feeders before grid modernization investments.	Section III B.c
	6. With the 2020 service quality reports due April 2021, utilities must discuss and propose a transition to a full benchmarking approach to setting reliability standards. In advance of the transition, the Commission hereby delegates authority to the Executive Secretary to continue conversations with utilities and other interested parties on the following topics: a. Definition of "work centers" b. Benchmarking for individual work centers c. Other considerations for the transition to benchmarking	Section V
	11. Set Xcel Energy's 2020 MN service territory-wide Reliability Standard at the IEEE benchmarking second quartile for large utilities. Xcel must file a supplemental filing to its 2020 service quality report 30 days after IEEE puulishes the 2020 benchmarking results, with an explanation for any statewide standards the utility did not meet.	The Company will submit a supplemental filing later this year.
	13. Xcel Energy must clarify call center data in its 2020 service quality reports, discuss the Company's efforts to improve the reliability of its Customer Resource System, explain why interactive voice response is included in reporting calls answered within 20-second threshold.	Section IV. D
	14. Each utility must report over the next two reporting cycles, to the extent feasible, the following: a. Yearly total number of website visits; b. Yearly total number of logins via electronic customer communication platforms; c. Yearly total number of emails or other customer service electronic communications received; and d. Categorization of email subject, and electronic customer service communications by subject, including categories for communications related to assistance programs and disconnections as part of reporting under Minn. R. 7826.1700 If a utility is unable to report the information, the utility must provide an explanation as to why the information is not filed and the plans for reporting the information in the future.	Section IV H.
	16. After consultation with Department and Commission staff, each utility must file revised categories for reporting complaint data. The Commission hereby delegates authority to the Executive Secretary to approve additional reporting categories, with the goal of establishing them by April 1, 2021 reporting deadline.	Section IV. G
	17. The Commission hereby delegates to the Executive Secretary the authority to approve Xcel's public-facing summaries. The Executive Secretary may work with the utilities to refine the language and content in the summaries as needed.	See Attachment B for the updated public facing summary

	18. Xcel must file the information listed in the revised Attachment A with its Safety, Service Quality, and Reliability report due April 1, 2021. Xcel shall provide the following information, as a downloadable .csv or .xlsx file, by feeder, for the calendar year. Xcel may exclude feeders that meet the 15/15 aggregation standard. a. Reliability reporting region where the feeder is located b. The substation the feeder is on, with its full name c. The zip code in which teh feeder is primarily located d. The number of customers on the feeder, including the proportion of residential to commercial and industrial e. Whether the feeder is overhead or underground f. SAIDI, SAIFI, and CAIDI, normalized (IEEE 1366 Standard) and with Major Event Days g. Number of outages, total customer outages, and total customer-minutes-out for the following situations: i. All levels, All Causes included ii. Bulk Power Supply - All causes, distribution, substation, transmission substation, and transmission line levels; iii. All levels, no "planned" cause, includes bulk power supply iv. All levels, "planned" cause only, includes bulk power supply (cont'd on next line)	Attachment M
	18. Cont'd h. Number of outages, total customer outages, and total customer-minutes-out in teh following primary outage cause categories, normalized and non-normalized i. Equipment - OH ii. Equipment - UG III. Lightning iv. Other v. Power Supply vi. Planned vii. Public viii. Unknown ix. Vegetation x. Weather - non-lightning xi. Wildlife	Attachment M
	19. Xcel must work with the workgroup to develop an interactive map, with input from stakeholders on the scope and details of the map. Xcel must file an update on the development of the map by October 1, 2021.	The Company will submit an update by Oct 1, 2021.
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 Graphs 1a to 1d
Docket E002/M-18-239 Order Date: May 14, 2019	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.H

	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
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.J
	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/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 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; • Minimum days, maximum days, and standard deviations for each category; and • Volume of excluded field orders.	Section IV.A.2 and Attachment J
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	The MPUC granted a variance in its December 18, 20201 Order in Docket No. E002/M-20-406. See Attachment G for a summary of outages and notifications completed
	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 and Attachment K

Xcel Energy's
Service Quality Annual Report

Safety, Reliability Standards, and Service Quality for 2020
and
Request for Approval of Electric Reliability Standards for 2021

April 1, 2021
Docket No. E-002/M-21-____

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ATTACHMENTS

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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 2020.

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 2020

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 2020, 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 2020. 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
414 Nicollet Mall General Office	658	1,221,865	0	0	0	0	0	0	0	0	0	0	0	0
Prairie Island	569	1,118,906	0	0	0	3	0	0	2	0	0	0	1	0
Rice Street	361	710,975	0	5	1	1	256	105	5	0	2	0	0	0
Sherco	278	564,900	0	3	2	10	336	181	8	0	0	0	7	0
St. Cloud	70	132,992	0	0	1	0	13	0	1	0	0	0	0	0
Summary	**1,936**	**3,749,638**	**0**	**8**	**4**	**14**	**605**	**286**	**16**	**0**	**2**	**0**	**8**	**0**

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

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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 2020 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., 2020), but this summary also reflects payments made in 2020 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 2020

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 to the Company's reliability performance.

a) Overview of 2020 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 99.981 percent of time. Excluding MEDs, our Minnesota customers were without power for an average of 99 minutes; an average customer experienced around one outage in 2020, while approximately three percent of our Minnesota customers experienced more than three power outages; and approximately three percent experienced an outage lasting longer than six hours in 2020.

We know the Commission looks closely at the performance by work center as well. By looking at the performance data for 2020, we know that not all customers in all parts of our service territory experienced the above level of service. In 2020, the Company met the Commission set standards in three of the twelve metrics. As described in more detail below, the Company met the CAIDI standard for Metro West, Metro East and South East work centers; and missed the remaining standards. In 2020 the Company continued to investigate the causes of lagging reliability performance in the Southeast work center and provided quarterly reports on its progress. The Commission's Order dated December 18, 2020, Docket E002/M-20-406, ordered the Company to continue filing quarterly status reports on efforts to improve reliability in the Southeast Work Center through fourth quarter 2021. Attachment C is the Fourth Quarter report filed on February 5, 2021.

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, 2020 , as required by Minn. R. 7826.0600, we proposed reliability standards for 2020 for each of our four Minnesota work centers.[1] Table 2 below presents our 2020 reliability performance results compared to the proposed standards approved by Commission Order in Docket No. E002/M-20-406 Order Point 12.

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

TABLE 2
2020 RELIABILITY PERFORMANCE RESULTS

		2020 Performance Results	2020 Standards
Minnesota	SAIDI	98.92	NA
	SAIFI	0.99	NA
	CAIDI	100.28	NA
Metro East	SAIDI	**104.98**	89.95
	SAIFI	**1.01**	0.84
	CAIDI	103.69	106.91
Metro West	SAIDI	**88.82**	79.37
	SAIFI	**1.00**	0.79
	CAIDI	88.53	100.55
Northwest	SAIDI	**121.94**	87.11
	SAIFI	**0.93**	0.75
	CAIDI	**130.98**	115.72
Southeast	SAIDI	**105.07**	94.82
	SAIFI	**0.87**	0.76
	CAIDI	120.29	122.04

As shown above, in 2020 we met three 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.

Our explanation on how the reliability data was normalized to account for major storms is explained in Section V.

- **Order Point 11 in the Commission's December 18, 2020 Order in Docket No. E002/M-20-406 set the Company's 2020 Minnesota service territory-wide Reliability Standard at the IEEE benchmarking second quartile for large utilities. The Company must file a supplemental filing to its 2020 service quality report 30 days after IEEE publishes the 2020 benchmarking results with an explanation for any statewide standards the utility did not meet.**

[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, 2021.

The Company will submit a supplemental filing later this year after IEEE publishes its 2020 benchmarking results along with an explanation for any statewide standards we did not meet.

- **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.

For 2020 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.

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, see Table 3 below. We have customarily provided a chart of our reliability performance with and without 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 table also complies with the obligations of Order Points 1 and 2 from Attachment B.

2020 Metro SAIDI

Legend

SAIDI 2020 Feeder Color Code

- Green <= 100
- Blue = 100 - 149
- Pink = 150 - 199
- Red >= 200

0 3.75 7.5 15 22.5 30 Miles

MN 2020 SAIDI by Feeder
Normalized using MN New Annual Rules Method

2020 MN SAIDI

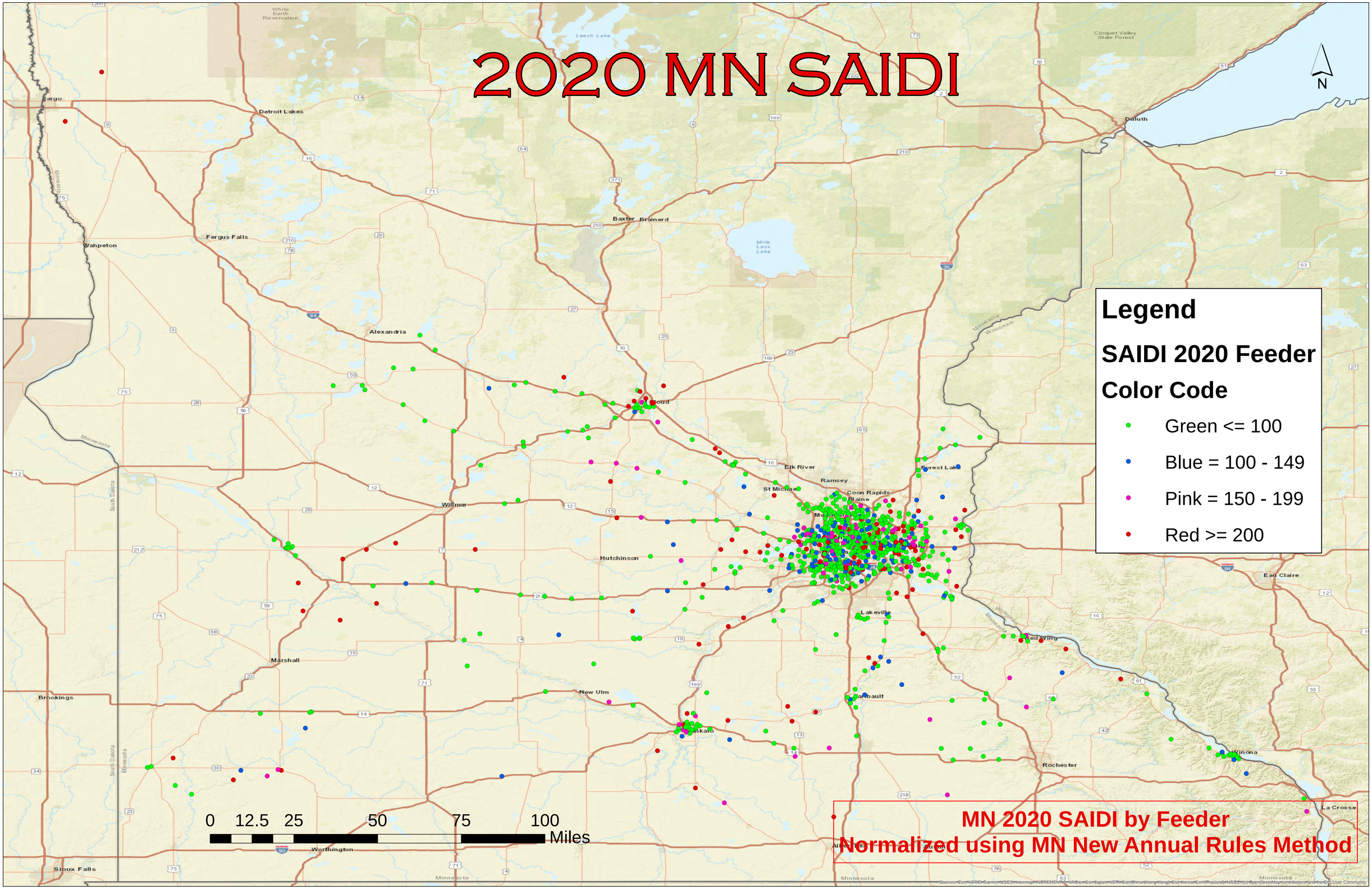


Table 3

Historical Reliability Indices & Storm Day Exclusions

All Days[1]		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Minnesota	SAIDI	207.77	149.15	562.11	116.43	184.50	214.39	141.70	125.00	124.50	134.19
	SAIFI	1.11	1.07	1.39	0.92	0.96	1.05	0.90	0.95	0.86	1.07
	CAIDI	187.11	139.51	404.36	126.00	192.32	204.84	158.10	131.22	145.30	124.89
Metro East	SAIDI	113.90	190.95	352.30	123.54	177.19	223.67	136.51	112.11	104.57	124.02
	SAIFI	0.96	1.20	1.27	0.98	1.04	1.08	0.95	0.96	0.85	1.07
	CAIDI	118.95	159.23	278.46	125.93	169.86	206.85	144.37	116.71	122.52	115.72
Metro West	SAIDI	238.03	139.19	810.01	105.98	229.78	198.25	148.58	88.23	79.92	143.84
	SAIFI	1.19	1.10	1.55	0.89	1.00	1.00	0.86	0.92	0.74	1.13
	CAIDI	199.66	126.85	523.66	118.70	229.92	198.86	173.27	95.70	107.38	127.72
Northwest[4]	SAIDI	470.05	109.75	468.22	82.82	75.61	225.74	173.71	109.50	150.82	133.55
	SAIFI	1.40	0.87	1.40	0.82	0.66	1.07	0.98	0.87	0.94	0.98
	CAIDI	334.78	126.17	335.53	101.00	115.40	211.50	177.46	126.02	160.71	135.77
Southeast[5]	SAIDI	125.28	97.25	179.29	173.45	98.23	249.05	96.37	353.32	374.19	122.43
	SAIFI	0.95	0.71	1.06	0.98	0.79	1.15	0.84	1.15	1.32	0.92
	CAIDI	131.69	137.84	168.93	176.51	125.07	217.15	114.75	307.95	283.40	132.38

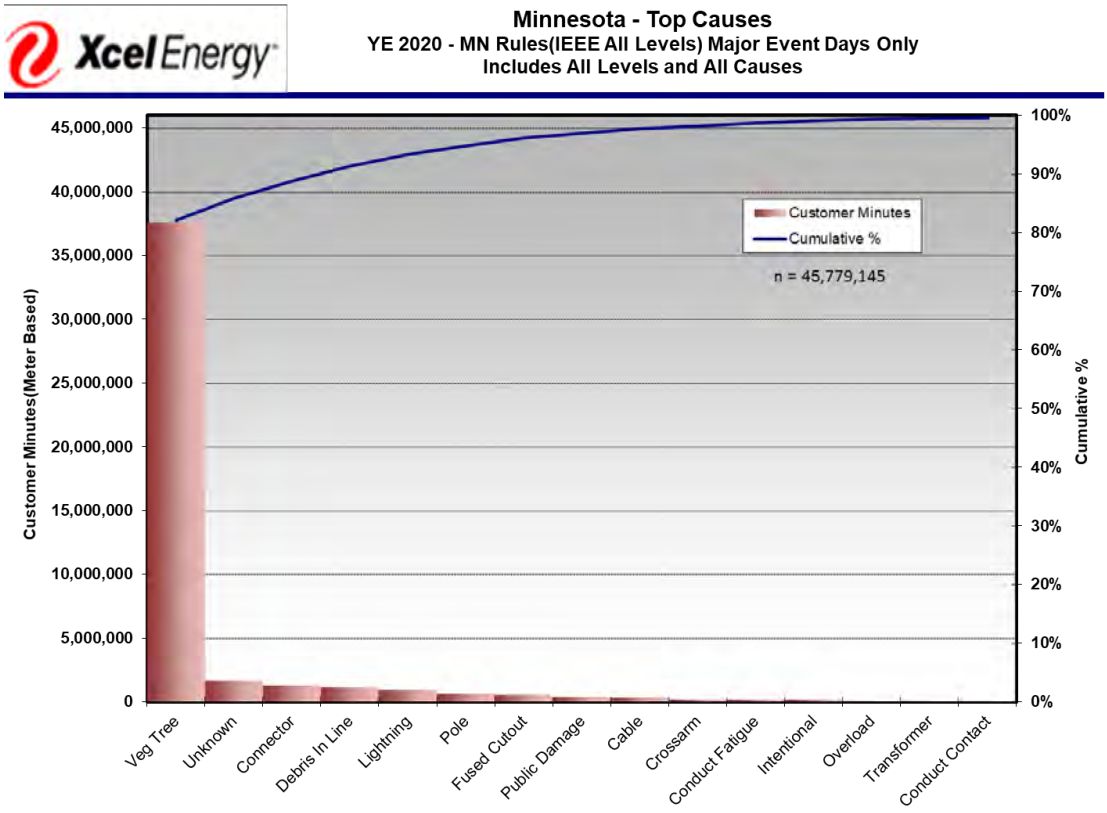
MN Tariff[2]		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	'20 Target
Minnesota	SAIDI	83.87	96.20	91.12	79.85	86.83	89.49	73.80	93.26	76.66	95.52	133.23
	SAIFI	0.82	0.88	0.86	0.78	0.79	0.81	0.72	0.85	0.70	0.96	1.21
	CAIDI	102.08	109.60	106.51	102.07	109.90	110.54	102.10	109.90	109.74	99.73	NA
Metro East	SAIDI	79.34	90.70	83.56	77.58	93.71	95.49	75.70	103.28	79.26	104.56	
	SAIFI	0.83	0.88	0.83	0.82	0.90	0.87	0.75	0.92	0.72	0.99	
	CAIDI	96.00	103.35	100.72	94.81	104.58	110.07	100.79	112.40	110.29	105.19	
	MED's	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	1 8/14	
Metro West	SAIDI	88.20	103.42	101.24	81.85	88.98	82.90	69.28	81.25	68.25	87.46	
	SAIFI	0.87	0.97	0.96	0.82	0.82	0.82	0.70	0.84	0.69	1.01	
	CAIDI	101.09	106.83	105.85	100.15	108.90	101.51	98.40	96.63	99.17	86.19	
	MED's	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	4 5/29, 7/18, 8/10, 8/14	
Northwest[4]	SAIDI	79.42	94.20	85.78	62.16	69.39	80.19	69.41	99.87	61.17	100.31	
	SAIFI	0.69	0.73	0.75	0.61	0.57	0.56	0.64	0.73	0.53	0.75	
	CAIDI	115.38	128.31	113.87	102.05	121.05	143.58	107.70	137.06	115.94	133.14	
	MED's	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	3 3/22, 7/18, 8/23	
Southeast[5]	SAIDI	82.70	82.40	73.58	94.45	70.78	109.59	92.84	110.67	122.21	99.53	
	SAIFI	0.70	0.59	0.57	0.67	0.52	0.82	0.79	0.77	0.84	0.76	
	CAIDI	118.72	138.48	129.93	141.93	135.23	133.06	117.19	144.04	145.17	130.46	
	MED's	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	1 8/8	

Annual Rules[3]		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	'20 Target
Minnesota	SAIDI	88.17	101.86	94.27	84.00	89.95	90.45	75.04	96.07	81.02	98.92	NA
	SAIFI	0.88	0.93	0.90	0.84	0.83	0.83	0.74	0.89	0.75	0.99	NA
	CAIDI	100.53	109.78	104.60	99.67	108.09	108.93	100.90	107.39	108.29	100.28	NA
Metro East	SAIDI	79.89	105.74	85.05	79.73	93.73	95.52	76.22	103.69	80.56	104.98	89.95
	SAIFI	0.85	0.96	0.86	0.86	0.90	0.87	0.76	0.93	0.75	1.01	0.84
	CAIDI	93.83	110.03	99.33	92.46	104.25	109.70	100.48	111.74	107.36	103.69	106.91
	MED's	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	1 8/14	
Metro West	SAIDI	89.74	103.98	101.41	83.02	90.95	83.64	69.51	83.26	69.50	88.82	79.37
	SAIFI	0.90	0.98	0.96	0.84	0.84	0.82	0.71	0.87	0.70	1.00	0.79
	CAIDI	99.56	105.93	105.45	98.50	108.44	101.43	97.84	95.47	99.15	88.53	100.55
	MED's	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	4 7/18, 8/10, 8/14, 10/20	
Northwest[4]	SAIDI	94.29	95.05	97.43	82.80	75.58	85.81	75.77	109.34	89.07	121.94	87.11
	SAIFI	0.82	0.83	0.94	0.82	0.66	0.70	0.76	0.87	0.78	0.93	0.75
	CAIDI	115.31	115.16	103.70	101.02	115.39	122.38	100.28	126.05	113.48	130.98	115.72
	MED's	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, 11/18	1 6/11	0 None	3 1/26, 4/11, 9/2	1 7/18	
Southeast[5]	SAIDI	101.86	85.95	87.98	103.45	86.51	110.23	96.33	118.80	129.10	105.07	94.82
	SAIFI	0.90	0.67	0.73	0.80	0.75	0.85	0.84	0.92	0.93	0.87	0.76
	CAIDI	112.82	128.50	120.39	129.20	115.16	130.02	114.73	129.64	138.99	120.29	122.04
	MED's	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	1 8/8	

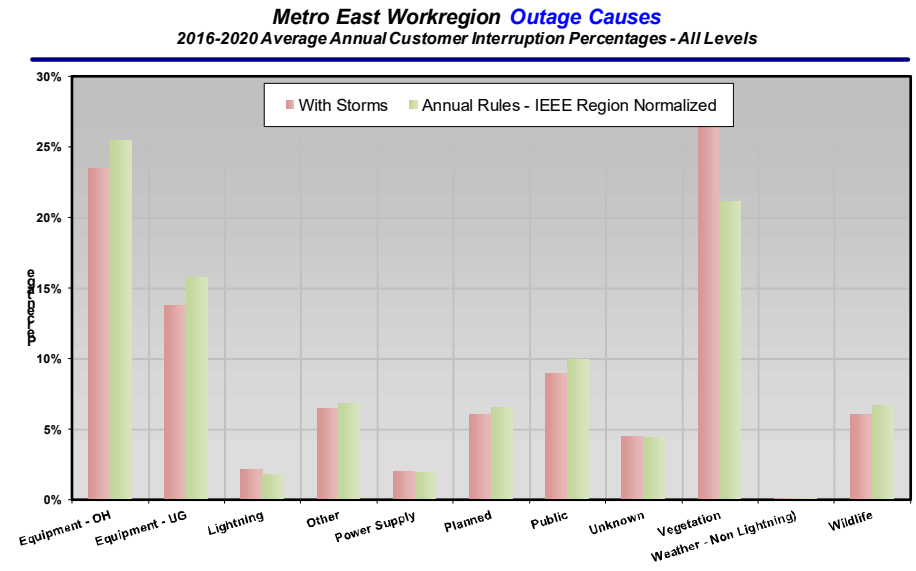
1) All Days - Includes All Days, Levels and Causes, Meter-based customer counts
2) MN Tariff - Normalized using IEEE 1366 at the Regional level after removing Transmission Line level. All Causes, Meter-based customer counts
3) Annual Rules - Normalized using IEEE 1366 at the Regional level, All Levels, 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 CAUSE OF OUTAGES

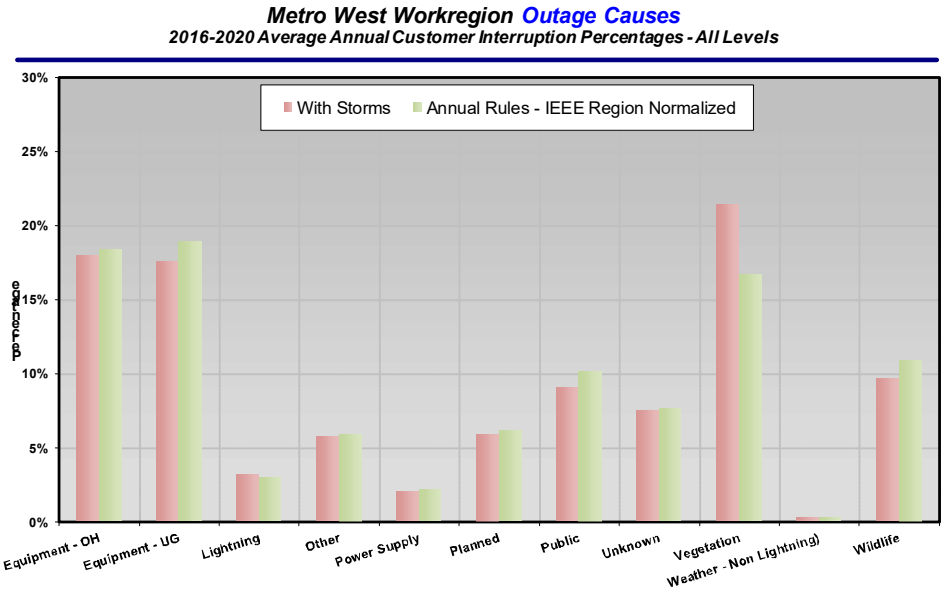


Graph 1A



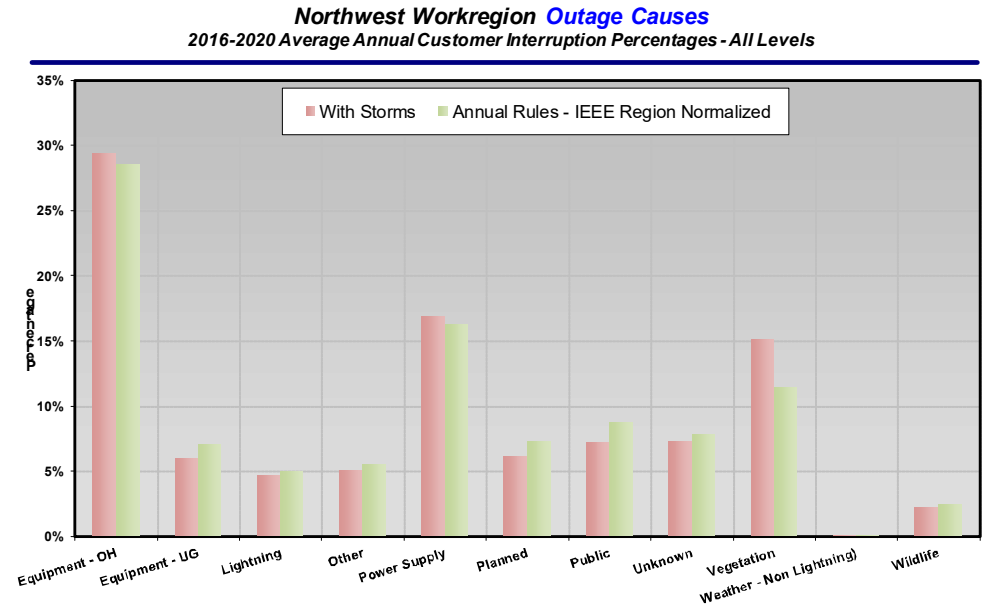
Annual Rules based on sustained outagess(>5 minutes), including All Levels and All Cause codes, IEEE 1366 Region normalized using 5 year rolling data including outliers

Graph 1B



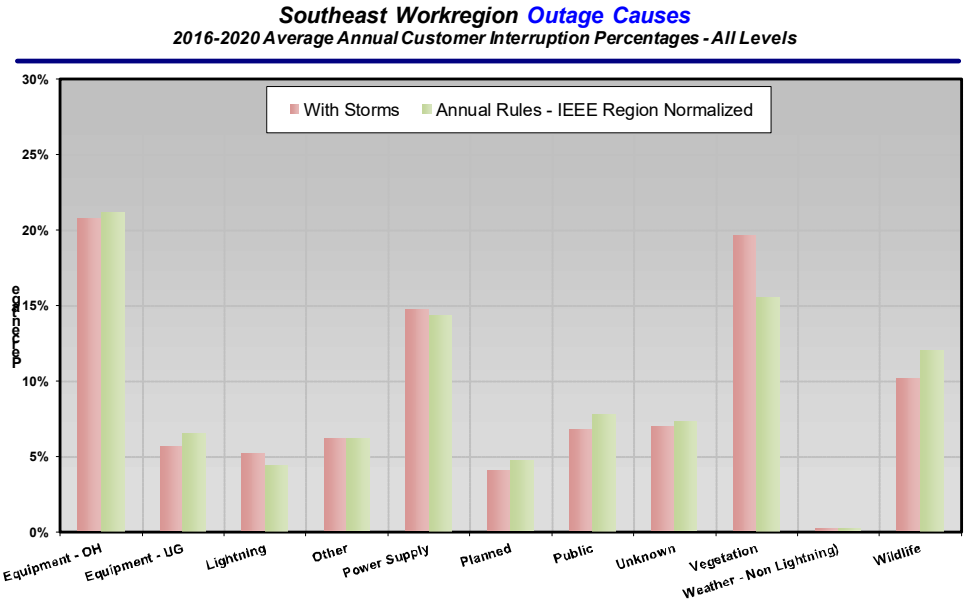
Annual Rules based on sustained outagess(>5 minutes), including All Levels and All Cause codes, IEEE 1366 Region normalized using 5 year rolling data including outliers

Graph 1C



Annual Rules based on sustained outagess(>5 minutes), including All Levels and All Cause codes, IEEE 1366 Region normalized using 5 year rolling data including outliers
Northwest Region includes customers/outages in the North Dakota work region that are in the state of Minnesota

Graph 1D



Annual Rules based on sustained outagess(>5 minutes), including All Levels and All Cause codes, IEEE 1366 Region normalized using 5 year rolling data including outliers
Southeast Region includes customers/outages in the South Dakota work region that are in the state of Minnesota

- **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 outage data by customer class. We note that Attachment M provides customer class information along with the reliability data by feeder, however we are not able to provide an overall SAIDI by customer type.

We have looked at the SAIDI by feeder and compared feeders with primarily residential customers to feeders with primarily commercial/industrial customers. Feeders that have more than 50 percent residential customers averaged a SAIDI of 98.9, SAIFI of 0.99 and a CAIDI of 100.3 normalized in 2020, while feeders with more than 50 percent commercial customers averaged a SAIDI of a 61.4, SAIFI of 0.66 and a CAIDI of 92.8. Although not studied, the difference between feeders primarily serving commercial versus residential customers is likely due to less vegetation in industrial and commercial areas, shorter feeders due to higher load density resulting in less exposure to the environment, and a higher percentage of customers with underground service.

The Company cannot provide the data specifically requested by the Commission and is investigating opportunities to be able to provide it in the future.

Much of the data on Attachment M has been marked as protected data.
This information is "security information" as defined by Minn. Stat. § 13.37, subd. 1(a). As we have explained in past filings related to our treatment of customer data, we take our responsibility for all of the data we maintain in order to provide our customers with reliable and safe service very seriously. Nearly daily, we hear about data breaches impacting individuals and organizations. Responsible access to sensitive data must be balanced with accountability for third parties to demonstrate their actions with the data will be in the public interest before gaining access. Additionally, as we have pointed out in the past with respect to utility release of customer data, once released by the utility, the Commission will have no jurisdiction over third parties – and the utilities lose any ability to control its use, sale, or other dissemination.
Our company principles are:

- Maintain customer privacy, confidentiality, and security in terms of their usage and how they are connected to the grid
- Avoid revealing details that would give a bad actor information to target an attack for maximum impact (ex. Peak load, equipment capacities, number of customers, how critical infrastructure is connected to the grid, etc.)

Attachment M to this filing contains information that the Company believes could be manipulated to reveal the location and size of facilities serving our customers. The public disclosure or use of this information creates a risk because those who want to disrupt the electrical grid for political or other reasons may learn which facilities to target to create the greatest disruption. For this reason, pursuant to Minn. Stat. § 13.37, subd. 2, we have excised this data from the public version of our filing.

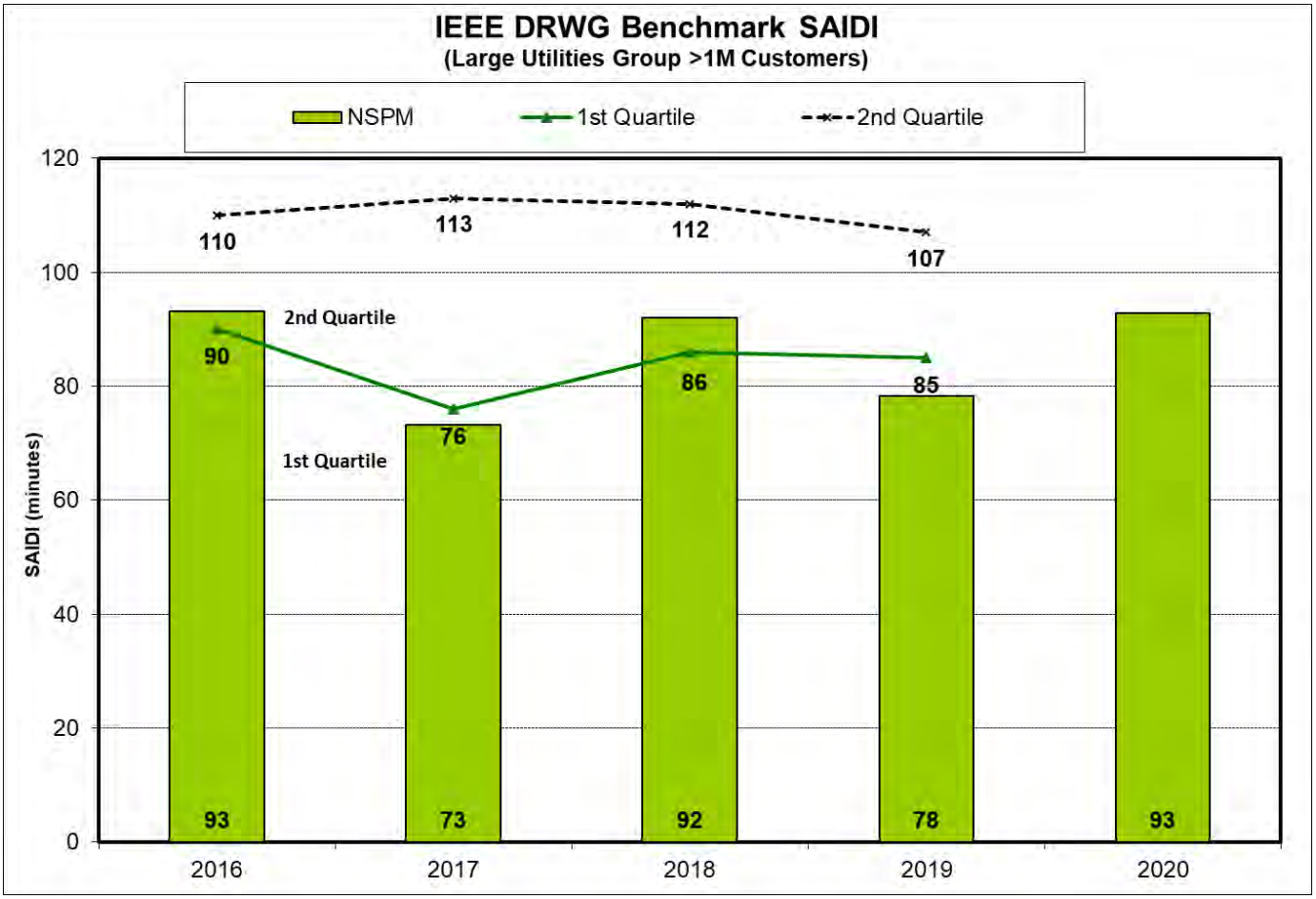
c. Benchmarking the Company's SAIDI, SAIFI, and CAIDI Performance with IEEE

- **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 to 4 below, we provide the 2019 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. Currently, benchmarking for MAIFI is not available and is not benchmarked by the IEEE industry.

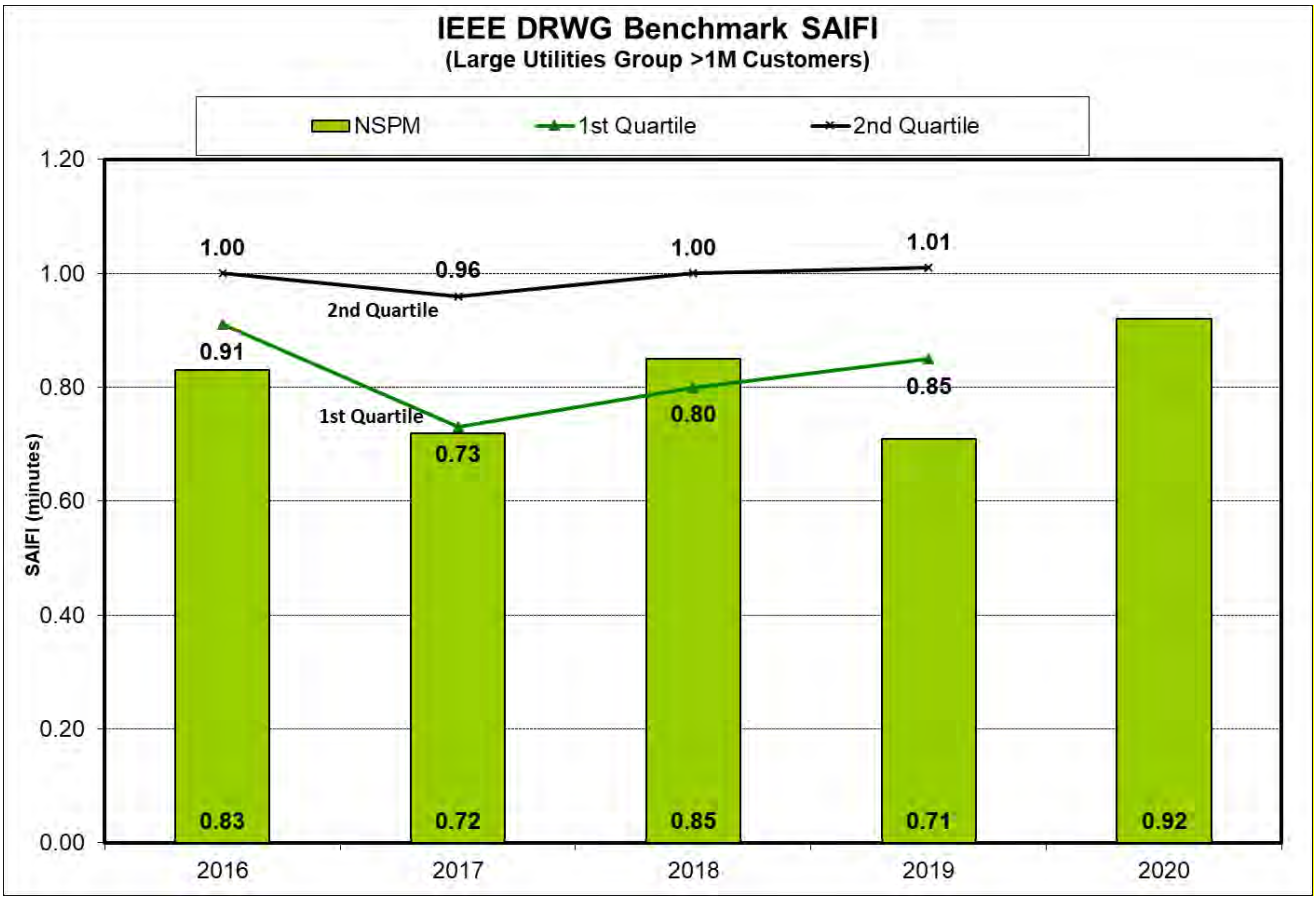
During 2019, NSPM's SAIDI performance was in the 1st quartile performance level.

GRAPH 2 – NSPM SAIDI



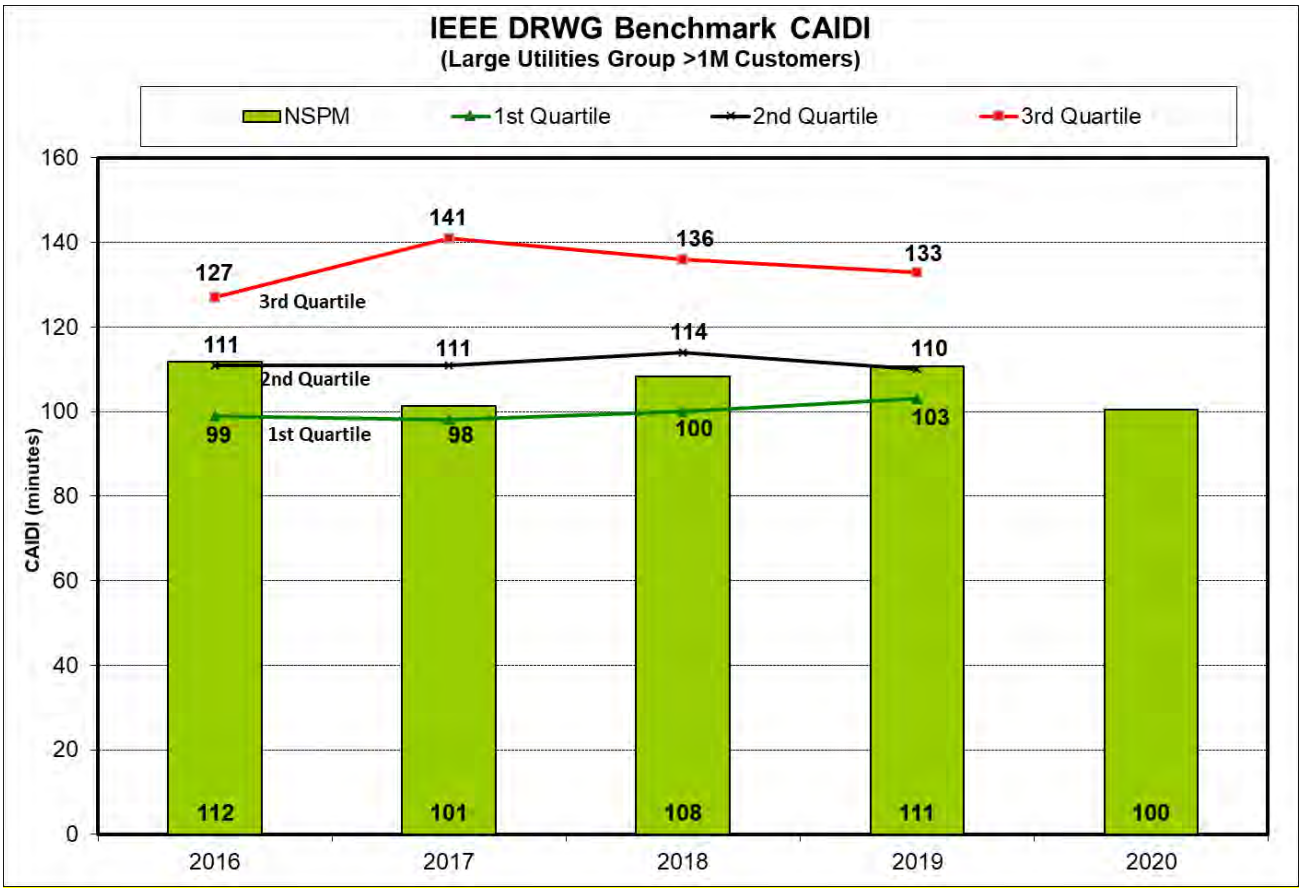
During the 2019, NSPM's SAIFI performance was at the 1st quartile performance level.

GRAPH 3 – NSPM SAIFI



During the 2019, NSPM's CAIDI performance was at the 3rd quartile performance level.

GRAPH 4 – NSPM CAIDI



Once the IEEE 2020 benchmarking info is available, the Company will submit an update in this filing.

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

- **Order Point 5 of the Commission's December 18, 2020 Order in Docket No. E002/M-20-406 required the Company to**

  "file the reliability (SAIDI, SAIFI, CAIDI, MAIFI, normalized/nonnormalized) for feeders with grid modernization investments such as Advanced Metering Infrastructure or Fault Location Isolation and Service Restoration to the historic five-year average reliability for the same feeders before grid modernization investments."