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March 31, 2017

VIA ELECTRONIC FILING

Daniel P. Wolf
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101-2147

Re: 2017 Safety, Reliability and Service Quality
Standards Report Docket No. E015/M-17-___

Dear Mr. Wolf:

Minnesota Power hereby submits, via electronic filing, its 2017 Safety, Reliability and Service Quality Standards Report as required by Minn. Rules 7826.0100-2000.

Please contact me at the number above if you have any questions regarding this filing.

Sincerely,

Jenna Warmuth

Attachment
cc: Service List

Before The Minnesota Public Utilities Commission

Safety, Reliability and Service Quality Standards Report Minn. Rule 7826

Docket No. E-999/R-01-1671

Minnesota Power
3/31/2017

I. INTRODUCTION

Minnesota Power (or "Company") submits this Safety, Reliability and Service Quality Report ("Report") to the Minnesota Public Utilities Commission ("Commission") pursuant to Minn. Rules, Chapter 7826. Through this Report, Minnesota Power provides the Commission, Department of Commerce-Division of Energy Resources ("Department") and other stakeholders, information detailing the Company's efforts and commitment to provide safe, reliable and affordable electric service to its unique customer base.

Minnesota Power serves approximately 145,000 retail electric customers and sixteen municipal systems across a 26,000-square-mile service area in central and northeastern Minnesota. Residential customers comprise less than ten percent of the utility's total annual delivery. More than half of Minnesota Power's total energy supply is sold to industrial customers who operate around the clock. This ratio of industrial demand gives Minnesota Power a uniquely high load factor and a load profile with less variation than most utilities. Minnesota Power is expected to remain a winter-peaking utility for the foreseeable future.

The Company balances its reliability goals against the need to leverage capital investments while efficiently managing its operating expenses. Minnesota Power believes that system reliability metrics[1] are best compared over multiple years to identify statistically relevant trends. The 2016 storm excluded results for System Average Interruption Duration Index ("SAIDI") and System Average Interruption Frequency Index ("SAIFI") were 122.69 and 1.29. In 2015 the comparable results were 101.82 and 1.17. The 2016 reliability results surpass the proposed 2016 SAIDI goal of 98.19, as well as the 2016 SAIFI goal of 1.02.

SAIDI (in minutes) **2016**	122.69
SAIDI (in minutes) 2015	101.82
SAIFI (# of outages) **2016**	1.29
SAIFI (# of outages) 2015	1.17

Figure 1: 2016 SAIDI/SAIFI Results vs 2015 Results

Due to the Extension Variance requested by the Department of Commerce on April 14, 2016, in Docket Number E-015/M-16-268 and the fact that the 2015 Reports were not taken up by the Commission in 2016, Minnesota Power utilized the SAIDI and SAIFI goals proposed in its 2016 Report. The Company did not meet its proposed goals for either SAIDI or SAIFI in 2016.

[1] Attachment A

Minnesota Power's service territory was once again ravaged by severe summer thunderstorms in the summer of 2016. During the early morning hours of Thursday, July 21, 2016, a severe storm ripped through Northern Minnesota, knocking down thousands of trees and power lines, and leaving over 57,000 Minnesota Power customers without power. Winds of over 100 mph were reported in downtown Duluth and 80 mph at the Duluth airport. This was the worst storm to affect the Company's electrical system in the Duluth area for at least 15 years.

The impact of the storm was devastating and widespread across the region and in other parts of Minnesota Power's service territory. More than one-third of the company's 145,000 customers were without power in the immediate aftermath of the storms. Half of these 145,000 customers had electricity restored within 24 hours. Others experienced multiday outages of varying degree as numerous uprooted trees and other storm debris made assessing damage and gaining access to complete repairs difficult. Many of those who remained without power for multiple days—about 2,000—were in the most severely affected Duluth neighborhoods of Woodland, Lakeside, Hunters Park and Morley Heights, where damage from fallen trees was severe and access to lines and poles was more challenging.

Minnesota Power quickly mobilized to preserve the integrity of the system, including impacted transmission lines, and conducted aerial and ground assessments of the severe damage to Minnesota Power infrastructure. Roughly 300 power poles were damaged and needed to be replaced and many power lines were down. In Duluth, an estimated one-third of the City's 65,000 customers were without power the afternoon of Thursday, July 21. Minnesota Power crews and mutual aid[2] responders worked more than 31,000 hours to restore power to customers and achieved 100 percent restoration within a week. In addition to the line and vegetation crews' visibility in neighborhoods and on streets, the company's storm response included hundreds of employees in support roles. The company's emergency response plan and frequent updates to customers through traditional and social media also played important roles in the effective response.

The Company's use of its Emergency Response Plan attributed to the quick action and organized response during the crisis. Minnesota Power modeled its emergency response to utilize the Incident Command System ("ICS") as part of the National Incident Management

[2] Mutual Aid respondents are listed on Page 18

System “NIMS”. This structure provides command, control, and coordination that is well understood by multiple agencies including federal, state, and local support services.

Minnesota Power also received an Edison Electric Institute (EEI) ‘Emergency Recovery Award’ for its restoration efforts in 2016. The ‘Emergency Recovery Award’ is given twice annually to EEI member companies to recognize their extraordinary efforts to restore power to customers after service disruptions caused by severe weather conditions or other natural events.

Minnesota Power Crews in Action. The restoration efforts were recognized by EEI. The Company received the Emergency Recovery Award for performance following the July 2016 wind storm event.

The effects and aftermath of the unprecedented July storms, coupled with unusual spurts of vehicle accidents, were the leading causes as to why Minnesota Power did not meet its proposed reliability goals in 2016. The Company’s tree trimming cycles did contribute to reduced vegetation-caused outages in 2016. Downtown Duluth also experienced several outages due to the failure of the last of the Paper Insulated Lead Cable (“PILC”).[3] Most of the lead cable has now been removed, with the remaining cable projected to be removed by end of 2019.

As part of restoration improvement efforts following 2017, the Minnesota Power Distribution operations team is focused on several key areas in order to improve restoration times. The first is improving and increasing the frequency of maintenance activities related to distribution switches used in restoration efforts. In addition to this, continuing the strategic placement of automated switches over the next several years will improve restoration times for those areas where they are deployed. The final area of focus is continued training efforts for operations staff related to improving restoration.

[3] The PILC project is described in detail on Page 16

II. REPORTING REQUIREMENTS

Minnesota Power's policies and procedures ensure pro-active management of its electrical system. Minnesota Power employs several methods to maintain reliability and provide active contingency planning. The primary methods used are discussed in detail below:

PLANNING PROCESS

Minnesota Power continues to focus on providing reliable and low cost electricity, while making prudent technology investments to enhance customer experience and reliability. Central to this customer compact is the distribution system planning process which guides investments on the system. All system investments must be weighed by cost, number of customers served, and practicality of expected results. These complex, variable factors are further complicated by the fast moving distribution technology developments available to utilities. Recent technological developments can allow for greater visibility into system issues as well as automated responses to those issues.

Figure 2 demonstrates the core tenets of Minnesota Power's distribution system planning process. The Company routinely reviews and updates its ten year distribution capital construction plan based on this planning process. Capital projects are selected each year based on a system which evaluates improvements in system performance, safety, compliance, capacity and efficiency. The investments are then prioritized. This plan then serves as a roadmap, and is reviewed frequently and modified, if necessary, to reflect the needs of customers, government agencies or other Minnesota Power stakeholders.

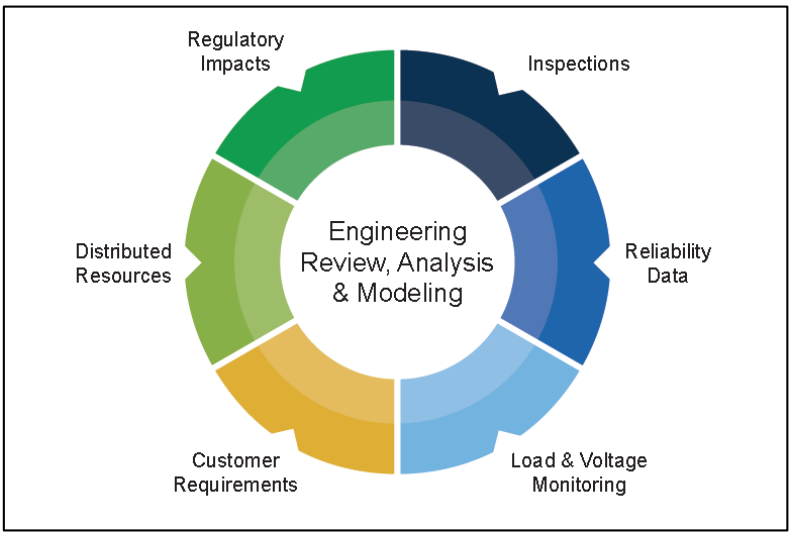


Figure 2: Distribution System Planning Components

VEGETATION MANAGEMENT PROGRAM

System reliability can be adversely impacted by many external environmental factors. One of the more significant factors that can impact the Company's system is vegetation encroachments. A coordinated and systematic vegetation management program is a key component of Minnesota Power's distribution reliability effort. Minnesota Power has designed a vegetation management program to address each distribution line approximately every five years and transmission lines every seven years. Vegetation management benefits the system in various ways.

- Reduces momentary outage events due to vegetation contact
- Improves system performance by reducing wildlife contacts
- Improves restoration as circuits are easier to access

In 2011, Minnesota Power entered into six-year contracts for vegetation management for both its transmission and distribution lines. This long term commitment maintains levels of vegetation management consistent with utility best practices while reducing costs through efficiencies realized from the vegetation management contractors having defined and committed long-term work scopes. As the contracts expire, contracting strategies will be analyzed and new agreements will be put in place.

Minnesota Power's vegetation management program for its distribution system has 339 electrical circuits spanning 4,780 miles of distribution right-of-way. Routine vegetation management activities are typically scheduled on a five year timetable, but this schedule may be advanced or delayed depending on actual conditions. Since vegetative growth depends on many conditions such as: precipitation, temperature, length of growing season, type of vegetation, soil fertility, and the time of year the circuit was previously maintained; the actual maintenance schedule may be longer or shorter than five calendar years.

Vegetation maintenance is normally accomplished through tree trimming, tree removal and/or application of herbicide. In addition to routine vegetation maintenance, Minnesota Power responds directly to tree concerns from its customers. When a customer calls with a tree concern, a Minnesota Power representative visits the customer's property to investigate the situation. In cases where the vegetation creates a potential electrical hazard due to its proximity with the electric facilities, Minnesota Power eliminates the hazard.

Minnesota Power plans to continue diligent management of the vegetation on its distribution system on a targeted 5 year basic cycle. The Company's vegetation management program utilizes a credentialed forester and two certified arborists in determining the actual vegetative growth, environmental conditions, reliability performance and growing seasons for each circuit. After examining these factors, the Company determines the timing of circuit clearing activities. This approach has aided in provided customers with reliable service for many years.

Figure 3 on Pages 6-8 lists the individual circuits scheduled to receive routine maintenance that have not had vegetation maintenance in the five years prior to December 31, 2016. Together, they represent 23 percent of the Company's distribution system by line miles.

20 percent of these line miles will be completed prior to the start of the 2017 growing season; another 80 percent will be completed by the end of 2017.

Area	Sub Feeder	Line Miles	Completion Year	Year Due	Scheduled Year	Number of Years
Askov 6521	ASK-6521	30.9	2010	2016	2017	7
Aurora 1	AUN-1	4.4	2011	2017	2018	7
Aurora 2	AUN-2	17.3	2011	2017	2018	7
Aurora 313 (from Laskin)	AUR-313	3.0	2011	2017	2018	7
Babbitt 1	BAB-1	11.9	2011	2017	2018	7
Babbitt 2	BAB-2	4.8	2011	2017	2018	7
Barnum 6421	BAR-6421	50.9	2011	2017	2017	6
Baxter 531	BAX-531	8.6	2011	2017	2017	6
Baxter 534	BAX-534	22.0	2011	2017	2017	6
Black Hoof Lake 1 (Crosby)	BHL-1	1.3	2011	2017	2017	6
Giants Ridge 1	BIW-1	4.9	2011	2017	2018	7
Brainerd 504	BRD-504	15.5	2011	2017	2017	6
Browerville 1	BRW-1	6.2	2010	2016	2017	7
Browerville 2	BRW-2	25.7	2010	2016	2017	7
Clarissa 1	CLR-1	12.6	2010	2016	2017	7
Clarissa 2	CLR-2	18.3	2010	2016	2017	7
Crosby 1	CSB-1	5.1	2010	2016	2017	7
Crosby 2	CSB-2	4.8	2010	2016	2017	7
Cuyuna 1	CUY-1	2.7	2011	2017	2017	6
Denham 6431	DEN-6431	56.0	2011	2017	2017	6
Deerwood 1	DER-1	13.9	2011	2017	2017	6
Deerwood 2	DER-2	12.3	2011	2017	2017	6
Deerwood Cty Hwy 12 Stepdown	DHY-1	32.5	2011	2017	2017	6
Dog Lake 503	DOG-503	13.8	2011	2017	2017	6
Eagle Bend 1	EGB-1	36.6	2010	2016	2017	7
Eveleth 1	ESS-1	4.8	2011	2017	2018	7
Eveleth 2	ESS-2	1.5	2011	2017	2018	7
Ely Lake, Woodlawn Point	EWP-1	0.0	2011	2017	2018	7
Gutches Grove 1	GGR-1	57.2	2010	2016	2017	7
Gary 200	GRY-200	21.5	2011	2017	2017	6
Gary 201	GRY-201	17.5	2010	2016	2017	7
Hewitt 1	HEW-1	23.3	2010	2016	2017	7
Hinckley 461	HKY-461	10.9	2011	2017	2017	6
Hinckley 462	HKY-462	5.0	2011	2017	2017	6

Hinckley 463	HKZ-463	17.7	2011	2017	2017	6
Half Moon Lake 1	HML-1	2.3	2011	2017	2018	7
Harts Press	HPS-1	3.8	2010	2016	2017	7
Hoyt Lakes 1	HYN-1	3.1	2011	2017	2018	7
Hoyt Lakes 2	HYN-2	10.6	2011	2017	2018	7
Iron Bowl Trailer Ct, South	IBS-1	0.0	2011	2017	2018	7
Iron Junction 1	INJ-1	29.9	2011	2017	2018	7
Ironton 1	IRN-1	6.3	2011	2017	2017	6
Laskin Energy Park 1	LEP-1	0.2	2011	2017	2018	7
Little Falls East 1	LFE-1	6.0	2011	2017	2017	6
Little Falls 529	LFL-529	36.9	2011	2017	2017	6
Little Falls 536	LFL-536	12.0	2011	2017	2017	6
Long Prairie Rural 1	LGP-1	34.4	2010	2016	2017	7
Long Lake 1 (Long Prairie)	LLK-1	7.7	2010	2016	2017	7
Lynch Lake (Pine Beach 3)	LNL-1	1.9	2011	2017	2017	6
Long Prairie 1	LPD-1	10.3	2010	2016	2017	7
Long Prairie 2	LPD-2	4.5	2010	2016	2017	7
Long Prairie North 1	LPN-1	3.5	2010	2016	2017	7
Long Prairie 501	LPR-501	11.6	2010	2016	2017	7
Long Prairie 527	LPR-527	11.6	2010	2016	2017	7
Long Prairie 535	LPR-535	12.2	2010	2016	2017	7
Nisswa Pumping Station	NPS-1	15.5	2011	2017	2017	6
Nisswa 1	NSW-1	5.0	2011	2017	2017	6
Nisswa 2	NSW-2	2.2	2011	2017	2017	6
Pine Beach 1	PNB-1	6.9	2011	2017	2017	6
Pine Beach 2	PNB-2	4.7	2011	2017	2017	6
Pierz - Genola 1	PZG-1	1.1	2011	2017	2018	7
Rural, Long Lake Rd (Eveleth)	RLL-1	0.3	2011	2017	2018	7
Riverton 1	RVD-1	7.6	2011	2018	2018	7
Riverton 505	RVT-505	10.1	2011	2018	2018	7
Riverton 506	RVT-506	24.2	2011	2018	2018	7
Riverton 530	RVT-530	11.8	2011	2018	2018	7
Riverton 532	RVT-532	7.0	2011	2018	2018	7
Sandstone 452	SAN-452	49.4	2011	2017	2017	6
St. Croix 1	STC-1	2.8	2011	2017	2018	7
St. Croix 2	STC-2	16.3	2011	2017	2018	7
Sylvan 1	SYN-1	16.2	2011	2017	2017	6
Trommald 1 (Crosby)	TRM-1	1.2	2011	2017	2017	6
Tower Soudan 1	TWN-1	4.8	2011	2017	2018	7

Tower Soudan 2	TWN-2	13.0	2011	2017	2018	7
Virginia 301	VRG-301	0.3	2010	2016	2017	7
Virginia 302	VRG-302	22.4	2010	2016	2017	7
Virginia 303	VRG-303	46.0	2011	2017	2017	6
Virginia 304	VRG-304	3.0	2011	2017	2017	6
Virginia 305	VRG-305	36.3	2011	2017	2017	6
Virginia 306	VRG-306	0.3	2011	2017	2017	6
Virginia 311	VRG-311	28.1	2011	2017	2017	6
Total (miles)		**1120.7**				

Figure 3: Circuits outside of 5-year trimming cycle.

LINE INSPECTION PROGRAM

Minnesota Power has an active line inspection program which includes the inspection of each pole on a ten year cycle. Poles that are 20 years and older are bored and checked internally for structural integrity. Approximately 15,000 poles, or ten percent, are inspected annually. Depending on what is found during the pole inspection, one of four following actions is taken:

1) Poles found to be compliant with inspection criteria are identified as needing no work pending the next ten year inspection; or
2) If insects or decay within the pole are found and treatable, action is taken to stop further effects from the insect or decay; or
3) If the pole is beyond treatment or stubbing, it is replaced.

Along with poles, line inspectors also visually inspect electrical equipment and other attachments to the pole, as well as ground mounted equipment looking for potential problems. The line inspectors are given Minnesota Power contact information that allows them to resolve issues requiring immediate response in the field. Other items are addressed through a standardized Groundline Resolution program. Minnesota Power is currently in the second year of its second complete ten year cycle. The Company estimates that the average age of the poles in its service territory are 35 years old and the average age of a replaced pole is approximately 50 years old. Minnesota Power has found this to be a prudent and logical way of evaluating and replacing the poles on its system.

IMPROVED CUSTOMER COMMUNICATION

Customer Care:

Building on the successful 2015 implementation of Minnesota Power's Customer Information System ("CIS"), work began in 2016 for the new "My Account" customer self-service

portal. This new portal will offer customers more online options and account information. Billing and usage information, application for service, streamlined access to paying online and easier communication with our Customer Call Center using email are enhancements to improve customer experience. An initial portion of the portal that allows customers to view usage information, “MyMeter”, was implemented in the summer of 2016. Roll out of the additional functionality in the My Account portal for Minnesota Power customers will take place in spring 2017.

In 2016 the Company worked with our telephone system provider to develop improved reporting to track events that produce large customer call volumes. With the improved reporting Minnesota Power can evaluate its response time and calls offered and answered in time segments of a high-call-volume event to better plan staffing and resource demands in future events.

The Company continued to use an after-call survey in 2016 to help keep a daily pulse on customers’ experiences. Minnesota Power utilizes the after-call surveys to coach Customer Information Representatives to ensure quality customer service and alignment with customer expectations.

In 2015 Minnesota Power developed a Dual Fuel Interruption alert for customers who wish to be notified when an interruption to their dual fuel electric heat will occur. This is an “opt-in” alert that allows the customer to receive emails, SMS text messages or both when the Company plans to interrupt their Dual Fuel meter. The feedback from customers has been very positive.

Interactive Voice Response:

Minnesota Power uses an Interactive Voice Response (“IVR”) unit as a means of improving communication with customers during an outage. The IVR is a telephone system that is able to interact with customers. The system has the intelligence to read the phone number of the incoming caller. If the number is in the CIS, the IVR will look to the Outage Management System[4] (“OMS”) to see if the caller is in an area affected by an outage. If the caller is part of a known outage, the system reports back that they are part of a known outage and whether crews have been dispatched. If the information is available, the system will also communicate estimated restoration time. The IVR has eased congestion during periods of multiple or widespread outages.

Minnesota Power is also using the IVR to communicate information to the OMS. The Company installed a General Electric *PowerOn* OMS in late 2006. This system gives a real time look at the distribution system by tying together incoming IVR data, information from the field, data from Minnesota Power’s Energy Management System[5] (“EMS”) and the Geographic

[4] An outage management system (OMS) provides the capability to efficiently identify and resolve outages and to generate and report valuable historical information.

[5] A system of computer-aided tools used by operators of electric utility grids to monitor, control, and optimize the performance of the generation and/or transmission system. The monitor and control functions are known as System Control and Data Acquisition; the optimization packages are often referred to as "advanced applications".

Information System[6] ("GIS"). With data from these sources, the OMS is able to predict the location of the problem. Based on that information, the OMS predicts which customers are without power. Once the problem is confirmed in the field, actual conditions are modeled in the OMS and the exact customers affected by the outage are identified. This method of outage detection makes identifying outages more reliant on real time data, and therefore, more efficient.

For years, Minnesota Power has used the IVR to initiate outbound calls to customers for various reasons. The Company is careful not to overuse this valuable tool but does have several campaigns that it believes are important to its customers:

- Cold Weather Alerts – at the beginning of the season the Company urges its customers to apply for assistance and about a month prior to the end of the program, encourages customers to call and make payment arrangements for their remaining balances
- Customer Affordability of Residential Electric ("CARE") – the Company runs these calls periodically throughout the year to financially vulnerable customers, urging them to apply for the CARE program.
- Minnesota Power utilizes the IVR to contact all of the customers in the vicinities where contract inspections will be taking place for the year. This informs the customers in advance that a contract employee will be visiting each of the poles and padmounts in the area.

Voltage Monitoring:

Tollgrade LightHouse smart grid line sensors will replace obsolete Sensus-Telemetric line voltage and outage monitors ("TVM") in 2017. The new technology improves system monitoring including outages, voltage levels (under or over), current levels, and power quality. Alarms and profiles will help identify areas that may be experiencing momentary outages or have temporary voltage drop or rise outside of normal operating limits.

Outage Monitoring:

Since 2011, the OMS system has been integrated with the Company's Advanced Metering Infrastructure ("AMI") system. This integration provides real-time messages from the AMI system when the power goes out at the customer service and when the power is restored to a customer service. This information is also used in the predictive algorithms that drive the OMS outage predictions. The AMI-OMS integration also allows service dispatchers to "ping" individual customer meters to verify power restoral and service status manually. This feature is integrated into the current OMS screens utilized by the dispatchers. This capability is available on the roughly one-third of the Minnesota Power meter population that has the AMI system installed, so the full benefit will not be realized until the majority of the meter population has been transitioned. This interface will be optimized as more meters are deployed and AMI

[6] A system designed to capture, store, manipulate, analyze, manage, and present all types of geographically referenced data.

system coverage is expanded over time. Minnesota Power expects much less customer communication regarding outage verification and restoration as AMI Technology is deployed.

IMPROVED CREW MOBILIZATION

In 2013 a new system was installed to mobilize crews for unscheduled work. The Automation of Reports and Consolidated Orders System ("ARCOS") system is programmed with the Company's callout lists. When a crew is needed, the Service Dispatcher simply lets ARCOS know what type of crew labor is required and ARCOS places automated phone calls to employees based on union callout rules. A task that formerly could take the Service Dispatcher upwards of one hour to complete is now done in several minutes by the ARCOS. The intended outcome of implementing this system is a reduction of outage durations. The Company plans to continue to utilize metrics from this system to improve both crew response and outage times in the future.

DISTRIBUTION GRID MODERNIZATION

Meter Data Warehouse:

As part of a comprehensive Smart Grid upgrade plan, Minnesota Power has completed design and implementation of both a Meter Data Warehouse ("MDW") and OMS integration as part of its Department of Energy American Recovery and Reinvestment Act ("ARRA") Smart Grid Investment Grant ("SGIG") AMI Project. The creation of the MDW has allowed for a central repository for all AMI data as part of the SGIG project, integrating the metering AMI data in the same data historian as the rest of company operational data. This has allowed a central repository for multiple uses of the AMI data, including some distribution operational data such as loading information. Minnesota Power designed this warehouse based on common standards in order to allow for future secure interfaces by third-party systems. However, this distribution operational information is currently only being stored for a single test feeder. The OMS integration allows for real-time tracking and verification of customer outages based on messaging coming from metering endpoints in the field.

One anticipated enhancement is the evaluation of a Meter Data Management System ("MDM") beginning in 2016 with anticipated system investment in 2017. This investment would provide much more efficient and automated validation, editing, and estimating functions while dealing with customer billing. Secondary benefits of a MDM investment include load research enhancements, engineering tools, and improved data streams for interfaces.

Synchrophasor Project:

Minnesota Power is a participant in the Midcontinent Independent Transmission System Operator ("MISO") Synchrophasor Project. MISO was awarded a SGIG to install Phasor Measurement Units ("PMUs") across its footprint. The PMUs will provide high speed data that can be used, in part, to verify the computer simulation models that are used to plan and operate the system today. As application software matures along with the rollout of these devices across

the Eastern Interconnection[7], there is potential to operate the system based on data collected from the synchrophasor devices. To date, Minnesota Power has installed four PMU's and two Phasor Data Concentrators ("PDC"). The PDC compiles all the PMU data from Minnesota Power and sends it to MISO in one data stream. All equipment is currently operational and providing high speed measurement information to MISO and critical locations throughout the transmission system.

Advanced Metering Infrastructure:

Minnesota Power continues the process of implementing its AMI meter installation. As outlined in Figure 4 on Page 12, at the end of 2016 the Company had installed approximately 51,916 AMI meters. The current AMI population represents approximately 36 percent of the overall meter population.

Equipment	Percent in Use	Description
Mechanical Meters	Less than 1%	Traditional electro-mechanical meter that records kWh usage.
AMR – Mechanical Hybrid	58%	Traditional Electro-mechanical meters that are retro-fitted with a one-way electronic automatic meter reading (AMR) module capable of reporting multiple quantities including kWh, kW, and outage count.
AMR – Solid State	5%	Modern Solid State electronic meters integrated with a one-way AMR module or retrofitted with an external AMR unit. Capable of reporting multiple quantities including kWh, kVARh, kW, and outage count.
AMI – Solid State	36%	Modern solid state devices integrated with a two-way AMI communication module. Capable of multiple measurement functions including Time of Use (TOU), kW, kWh, KVA, kVAh, kVAR, kVARh, instantaneous and average voltage, two channel load profile, and remote disconnect. Also capable of remote firmware, program, and display updates.

Figure 4: Metering Infrastructure

[7] All of the electric utilities in the Eastern Interconnection are electrically tied together during normal system conditions and operate at a synchronized frequency operating at an average of 60Hz.

Time-of-Use Rates and Demand Response:

Minnesota Power continues development of the Time-of-Day Rate with Critical Peak Pricing pilot project and Time-of-Day Rate filing which was submitted to the Commission on March 20, 2012 and was approved on November, 30 2012.[8] The accompanying web portal that enables customers to view their usage information in monthly, daily and hourly increments was also introduced to pilot project participants in March of 2012. The functionality in this web portal is included in the new "MyAccount" customer self-service portal. These efforts build upon Minnesota Power's existing conservation improvement programs and will offer insight into customer's appetites for more frequent and in depth information about their energy usage. Minnesota Power offered this rate to their customers in Quarter 3 of 2014 and rolled out the rate and related AMI system changes corresponding to the rate through Quarter 4 of 2014. The initial pilot year concluded in Quarter 4 of 2015. Analysis of the rate and rate impacts was completed and a compliance filing detailing all findings was submitted on March 25, 2016. The Minnesota Public Utilities Commission approved Minnesota Power's petition to continue the Time-of-Day Rate for existing participants on February 9, 2017.

Minnesota Power has offered its customers load management rates since 1983. Figure 5 on Pages 13-15 expands upon the Company's various customer load management offerings.

Name	Description	Number of Customers/Meters	Originated
Residential Dual Fuel Interruptible Electric Service	Available to customers where a non-electric source of energy is available	7,430[9]	1983
Residential Controlled Access Electric Service	Available to customers for controlled energy storage or other loads. Energized period: 11 p.m. – 7 a.m.	320[10]	1995
Commercial/Industrial Dual Fuel Interruptible Electric Service	Available to customers where an alternative source of energy is available during periods of interruption	536[11]	1983
Commercial/Industrial Controlled Access Electric Service	Available to customers for controlled energy storage of loads. Energized period: 11 p.m. – 7 a.m.	57[12]	1995
Rider for Large	Available to customer taking	0	1993

[8] Docket No. E015/M-12-233

[9] Source: 2015 FERC Form 1 page 304, line 4

[10] Source: 2015 FERC Form 1, page 304, line 6

[11] Source: 2015 FERC Form1, page 304, line 16

[12] Source: 2015 FERC Form 1, page 304, line 17

Power Interruptible Service	service under Large Power service for a specified amount of load that may be interrupted. The interruptible load is certified. The load available for interruption is limited to 200 MW.	(no longer open to customers)	
Rider for General Service/Large Light and Power Interruptible Service	Available to customers taking service under specific services such as General Service, Large Light & Power Service, with at least 200 kW of load Certified or Non-Certified Interruptible that qualifies for interruptible service. The customer is billed on its current rate, but will receive an additional credit of 11% of customer's billing before any applicable adjustment.	1[13]	1995
Rider for Released Energy	Available to Large Power customers who are willing to curtail energy at the request of the Company.	4[14]	1998
Pilot Rider for Large Light & Power Time-of-Use Service	Available to customer taking service under the Large Light and Power Service in excess of 10,000 kW	0	2011
Rider for Voluntary Energy Buyback	Available to General Service/ Large Light and Power customers including all applicable Riders. Customers must provide a minimum of 200 kW of curtailable demand for energy buyback transactions. Energy buyback facilitate short-term off-system sales or assist in avoiding higher-cost energy purchase to meet Company's firm energy requirements.	0	2001

[13] Source: Number of Customers currently billed in the Company's Customer Information System (CIS)

[14] Source: Number of Customers currently billed in CIS

Rider for Large Power Incremental Production Service	Available to any customer taking service under the Large Power Service whose Electric Service Agreement has a minimum term of at least four years beyond the initiation of Incremental Production Service	9[15]	1993
Pilot Rider for Residential Time-of-Day Service	Available to customers taking service under the Residential Service Schedule who reside in single-family dwellings in specified Duluth and Hermantown ZIP codes and who enrolled during application period in 2014. Rates vary for On-peak, Off-peak, and Critical Peak Pricing periods.	539[16]	2014

Figure 5: Customer Load Management Offerings

Distribution Automation:

As part of its Department of Energy Smart Grid Investment Grant pilot project in 2010, Minnesota Power invested in fiber-optic based Distribution Automation assets to implement a Fault Location, Isolation, and Service Restoration ("FLISR") system. The fiber communications investment associated with this system provides additional benefits of communication redundancy between two critical substations in the Duluth area, along with providing situational awareness at the distribution feeder level. The cost to implement this technology is approximately $250,000 for each automated feeder. Plans to implement new automated networks in the Company's service territory are being considered and evaluated for future investment. Experience with the existing system has showed that recovery from catastrophic outages can be reduced from many hours to just minutes for the majority of customers in the areas with FLISR, however, Minnesota Power is currently evaluating the customer benefits of this reduced outage times given the cost and additional maintenance of the system.

SYSTEM CONSTRUCTION AND ANIMAL PROTECTION

In densely populated areas, loops and ties are used to help shorten restoration times. When a system is looped, two paths are created to each service point. Generally speaking, both of those paths are from the same source, but restoration is shorter as a secondary path can be used while the primary path is repaired. The same is true of ties. Generally, a tie is created by joining two different circuits. This, too, gives electricity the capability to flow to a customer on one of two (or more) different paths. This makes restoration faster and easier as customers can be served from an alternate part of the system while repairs are made on the primary system.

[15] This Rider is an option available to all 9 Large Power Customers, but up to 7 customers are currently and frequently billed in CIS under this Rider

[16] Source: Number of Customers currently billed in CIS

Minnesota Power continues to make progress on the reduction of animal contact with energized equipment. Wildlife protectors have been available for years. In years past, when animal protection was put on electrical equipment it quickly resolved issues caused by wildlife. In time, the inside of the wildlife protectors would become contaminated which in turn would cause flashovers and outages would return. These flashovers were difficult to find as they generally happened on the inside of the wildlife protection and were not visible. Issues were also created by the wildlife protection devices contributing to overheating of equipment. Over the last several years, however, wildlife protection devices have changed. New designs in wildlife protection devices are effective in controlling wildlife, may be installed without customer outages, eliminate contamination and do not cause overheating problems. The new devices are more expensive than equipment previously used, but preliminary indications suggest that they are capable of animal protection without the side effects of contamination and overheating. Results will be more apparent the longer the equipment maintains functionality in the field. The Company continues to monitor the progress of the wildlife protection upgrades.

Paper Insulated Lead Cable Replacement ("PILC"):

Minnesota Power began active replacement of five circuits in 2013 when the Company started experiencing associated reliability issues. The five circuits were originally constructed with PILC in the late 1920's and early 1930's. The circuits were remarkably reliable for over 90 years and the Company only began experiencing issues in the 2012-2013 timeframe. After investigation of the root cause, the indication is that the loss of mineral oil in the insulating paper is the underlying factor in the problems experienced.

When failures began in 2012, a six year plan was created to address the replacement of the PILC cables and their associated infrastructure. As failures continued in 2013, the six year plan was substantially accelerated. While the original plan called for $700,000 in capital spending for 2013, actual spending equaled $2.03 million. The original capital designated for the subsequent five years of the plan was then compressed into the 2014-2017 timeframe. High impact projects will be prioritized while those projects with long permitting timelines and a need for substantial collaboration with the City of Duluth and the State of Minnesota will be completed later on.

Although not quite as extensive as 2015, Minnesota Power continued infrastructure upgrades in Downtown Duluth spending $1.5 million in 2016. The Company installed 1,800 lineal feet of new ductwork, installed and energized 12,000 feet of new cable, installed two new manholes in preparation for the 15th Ave W substation project (which was delayed until spring of 2017), and energized 21,600 feet of previously installed new cable (2014-2015). 7,200 feet of PILC was taken out of service and will be removed from the system. With the substation project delayed until spring 2017, the remainder of the previously installed cable was not energized as planned in 2016, but will be energized in the fall of 2017 instead. There is only a small fraction (hundreds of feet) of the original 7 total miles of PILC left to replace in downtown Duluth. 2017 infrastructure spend is approximately $2 million and will focus mostly on new duct work and connecting all the previously installed new cable to the new 15th Ave W substation. The Company will focus on a 9,000 foot section of PILC in western Duluth (not considered

"downtown", but part of the original 7 mile total) throughout 2018 and 2019. Total spend for the PILC project in 2018 and 2019 is forecasted at $1 million.

EMERGENCY PREPAREDNESS AND MUTUAL AID

Mutual aid is the cooperation between utilities to provide labor and vehicles to a utility so profoundly affected by outages that it is unlikely they will have the ability to restore power to all of their customers within four to seven days. A robust protocol has been developed between the Midwest Mutual Assistance Group which is comprised of 34 investor owned utilities. Generally a utility calls upon Mutual Aid when they face a week or more of outage times and multiple weeks of restoration work. To begin the process, Mutual Aid member representatives are contacted via e-mail, text message and finally a call by an interactive voice response unit. Each company has a minimum of two (and most have three) Mutual Aid representatives so attendance by each utility on the conference call is virtually guaranteed. At the beginning of a Mutual Aid call, the moderator references a spreadsheet with all of the utility names and their representatives. The moderator will work utility by utility obtaining and recording system status, utility needs and utility resources. After all of the utilities have reported, the most effective response coordination is formulated and finalized. New in 2017 to the MMAG is the implementation of the RAMP UP tool. This is an application that eliminates in most cases the need for a conference call and allows utilities to quickly input resource requests or availability of crews to help others through any smart device. The support you can request or offer is defined by FTE's experienced in transmission, distribution, vegetation or damage assessors.

With both Otter Tail Power and Xcel Energy dealing with their own recent storm cleanup events in July of 2016, Minnesota Power requested mutual aid from as far away as Missouri (Ameren) as well as local electric and tree contractors for the July storms. Xcel Energy provided mutual aid line crews to Minnesota Power after day 3 and offered additional crews after day 5 of the restoration effort. Figure 6 on Page 18 details the mutual aid respondents for the July 2016 storms.

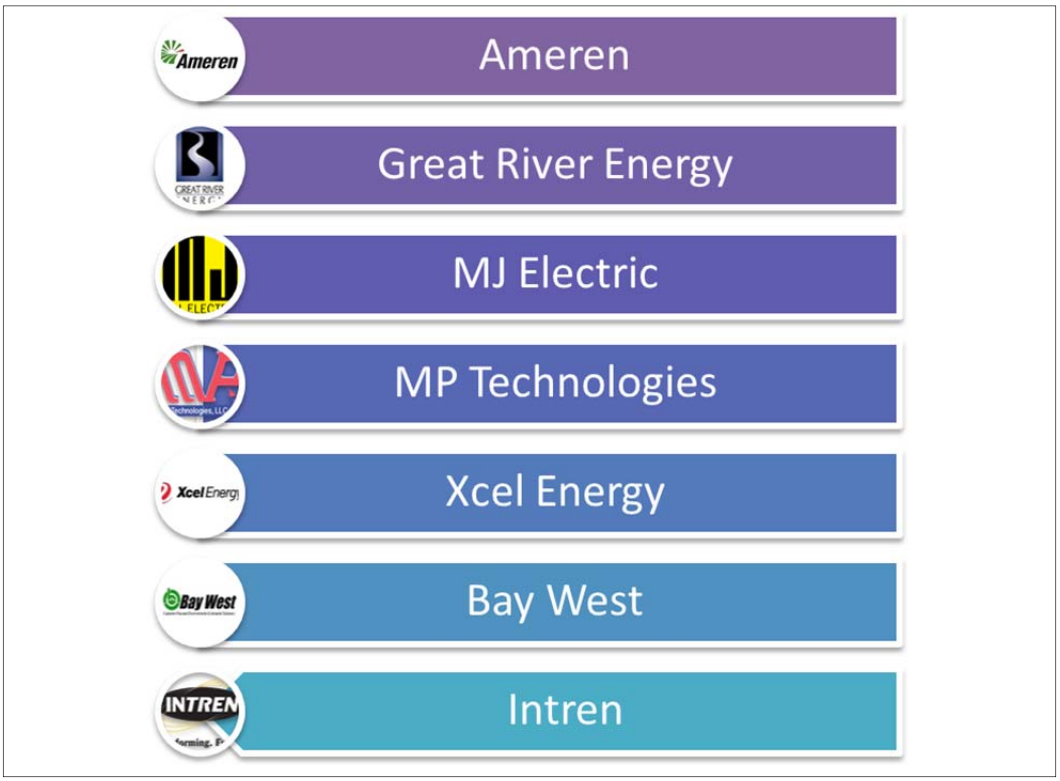
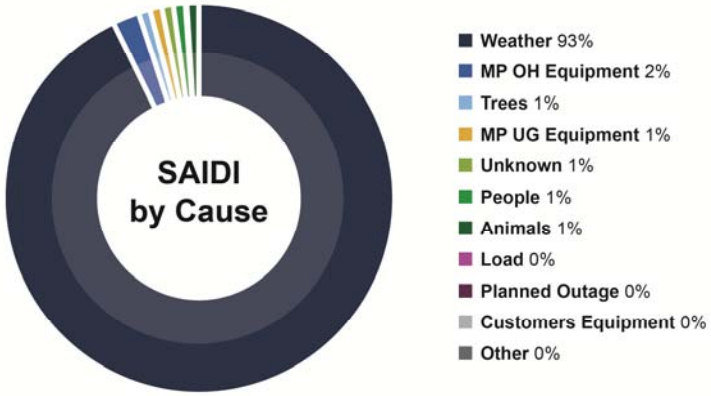


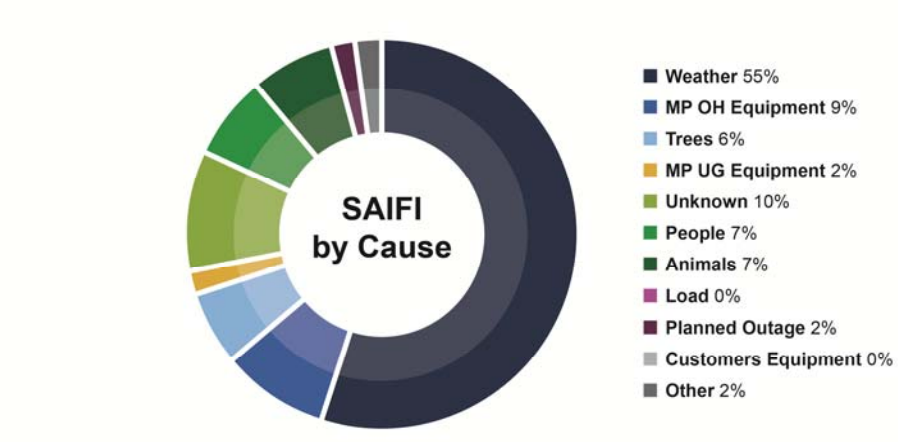
Figure 6: Mutual Aid Respondents

Without the Mutual Aid program, Minnesota Power customers would have likely suffered even longer outage times and the region would have realized further negative financial and societal impacts. Minnesota Power is grateful for the swift and positive response from its Mutual Aid partners.

III. Reliability Cost Matrix

Minnesota Power has provided summary information to assist stakeholders in understanding the Company's overall system reliability and the main factors that affect reliability. The Company has prepared charts and graphs in an effort to convey what it believes are the main contributing factors that can impact the long-term reliability metrics of the distribution system. The graphs and charts below show the contributing factors to SAIDI and SAIFI and the relationship between operational performance and cost. The Company strives to provide information in an easily understandable format.

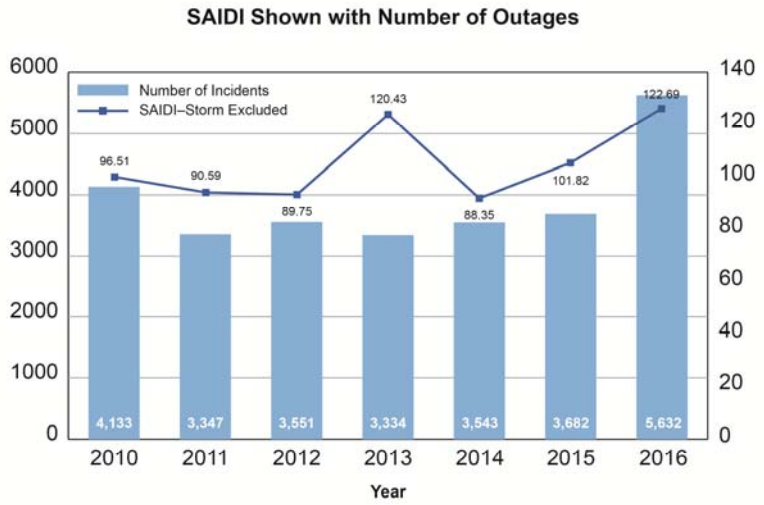
	This chart shows the percentage of Company non-storm excluded SAIDI reported by each of the identified causes. OH – Overhead UG – Underground



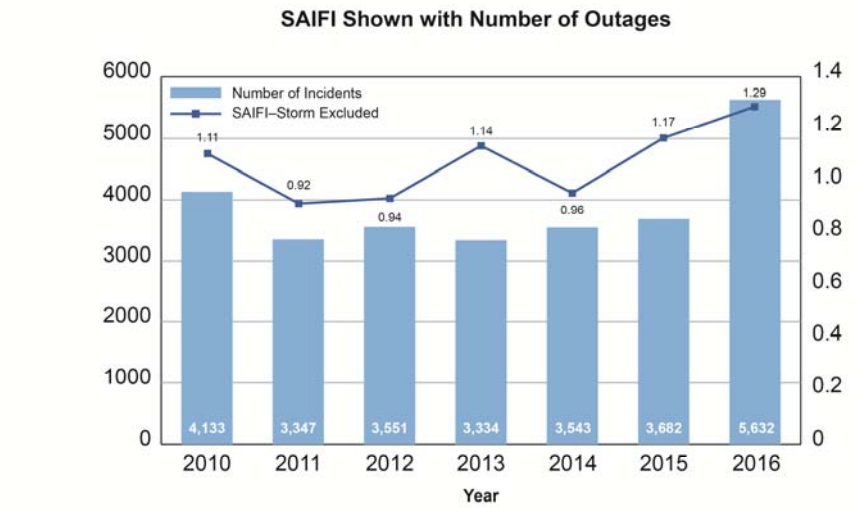
This chart shows the percentage of Company non-storm excluded SAIFI reported by each of the identified causes.

OH – Overhead

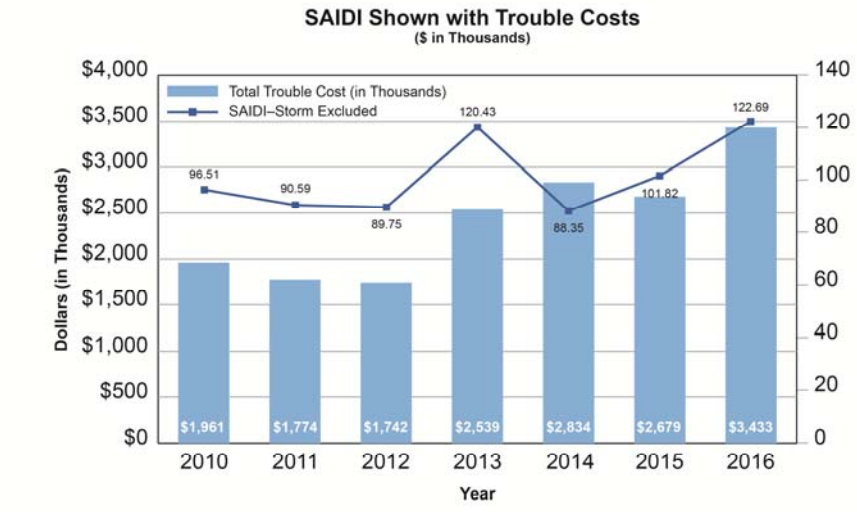
UG – Underground



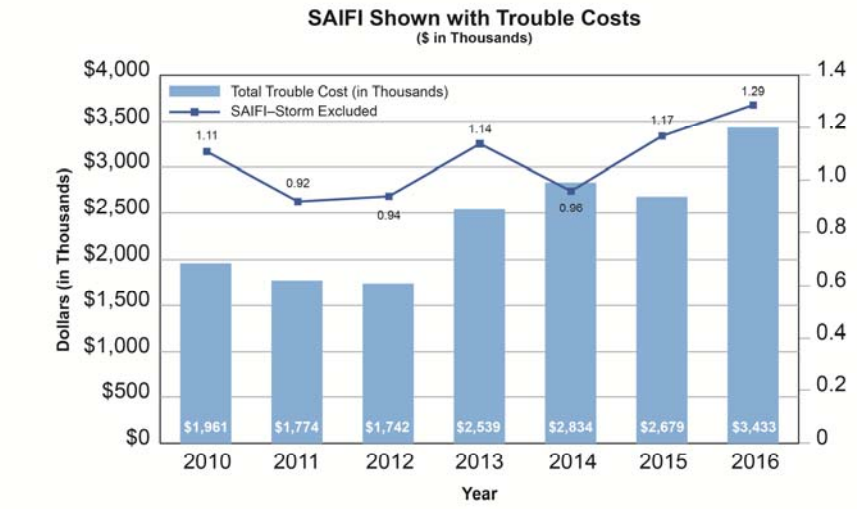
This chart presents SAIDI against Minnesota Power's historic number of outages 2010-2016.



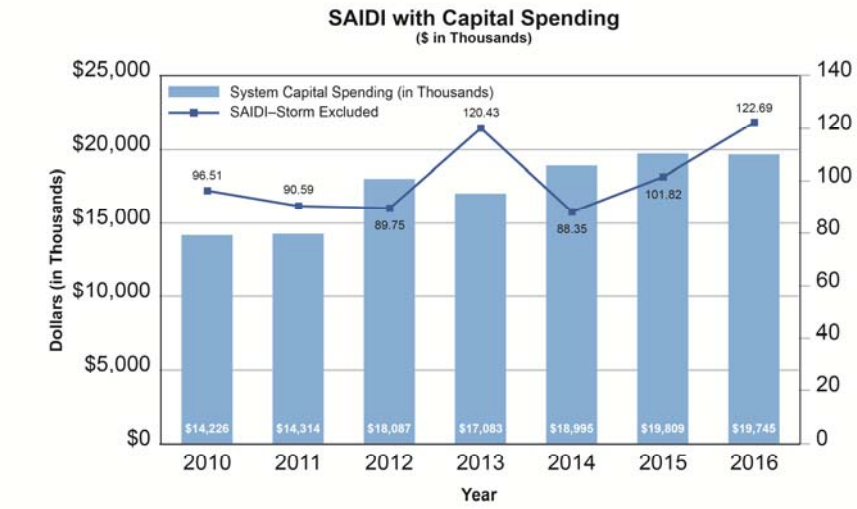
This chart presents SAIFI against Minnesota Power's historic number of outages 2010-2016.



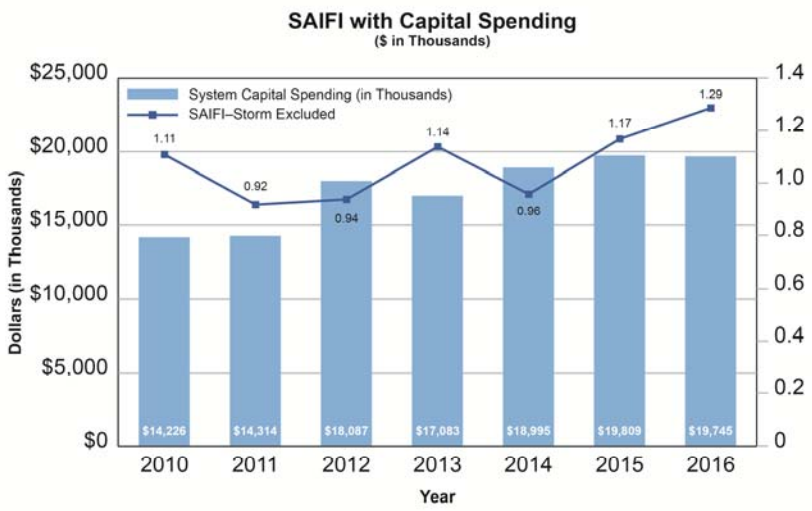
This chart shows SAIDI with operation & maintenance dollars spent on trouble calls 2010-2016. (This is unplanned work done without the replacement of capital assets.)



This chart shows SAIFI with operation & maintenance dollars spent on trouble calls 2010-2016. (This is unplanned work done without the replacement of capital assets.)



This chart shows SAIDI compared to capital dollars spent on distribution system 2010-2016. (This is generally planned work done to address revenue, system improvements, age related replacements, government mandates and other projects.)



This chart shows SAIFI compared to capital dollars invested on distribution system 2010-2016.

IV. POWER QUALITY

Minnesota Power resolves power quality issues on a case by case basis. When a customer calls with a complaint or questions regarding a power quality issue, Minnesota Power investigates and resolves all problems found to be caused by the Company. In the event of complaints regarding low voltage or high voltage, Minnesota Power will do an investigation of the customer's service and check for loose or overheated connections. If no problem is found or if the problem is intermittent, the Company will install a recording voltmeter. This meter allows for monitoring of the voltage over time and under various customer and system loading conditions. If those recordings demonstrate that the Company is not meeting its prescribed voltage standards, Minnesota Power performs the required maintenance in order to bring the voltage within the limits stated in its Distribution Standards. There are seldom requests from customers for power quality studies. The Company has observed that customers seem to experience fewer power quality issues than in the past. This is most likely due to more robust electronics and the widespread use of battery back-up options.

MAIFI

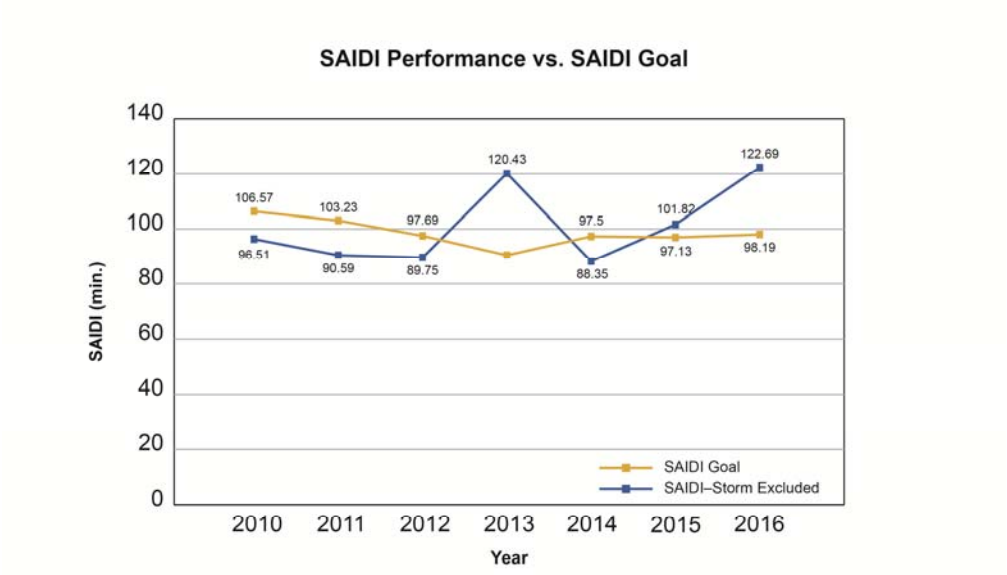
The Momentary Average Interruption Frequency Index ("MAIFI") index provides a measure of the average number of short outages, an interruption of electrical service that Minnesota Power defines as lasting less than five minutes that an average customer experiences in a year. While Minnesota Power has tracked MAIFI statistics for the last decade, it has done so with the knowledge that the Company's MAIFI data collection is and will continue to be incomplete without a significant investment in the technology necessary to enable Minnesota Power to collect and report all momentary outages. The accuracy of the MAIFI index will increase as incident tracking technologies continue to develop and are deployed across the distribution system. The Company continues to evaluate the cost of implementation versus the potential benefits. Unfortunately, as the capability to collect momentary information improves, the performance trend of the statistics may likely appear to degrade.

Momentary outage data is collected a few ways. About 30 percent of Minnesota Power's systems report through SCADA[17] The remaining data is collected manually. Some is collected to satisfy a customer request, and some is collected when device maintenance is done. The rest is collected in the OMS from customer phone calls reporting a brief interruption. The data collected for 2016 has been provided in the summary table on Page 27.

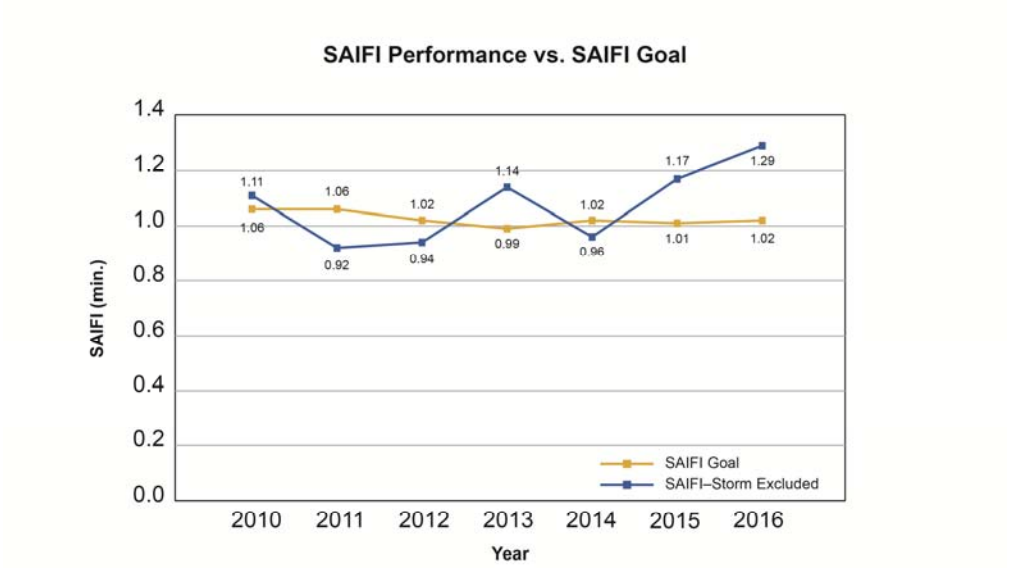
[17] Supervisory Control and Data Acquisition "SCADA" A system of remote control and telemetry used to monitor and control the electrical system.

V. MINNESOTA POWER 2016 SUMMARY GRAPHS

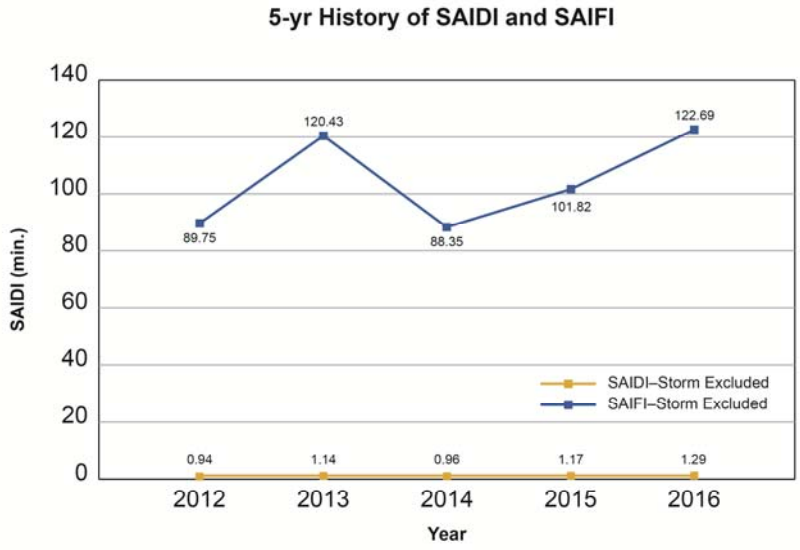
Minnesota Power is committed to maintaining safe, reliable and cost effective electricity service. Minnesota Power strives to provide high quality customer service. Further details on 2016 performance results are contained Pages 25-29 of this report beginning with graphs of the safety, reliability and service quality issues which impact Minnesota Power's customers.



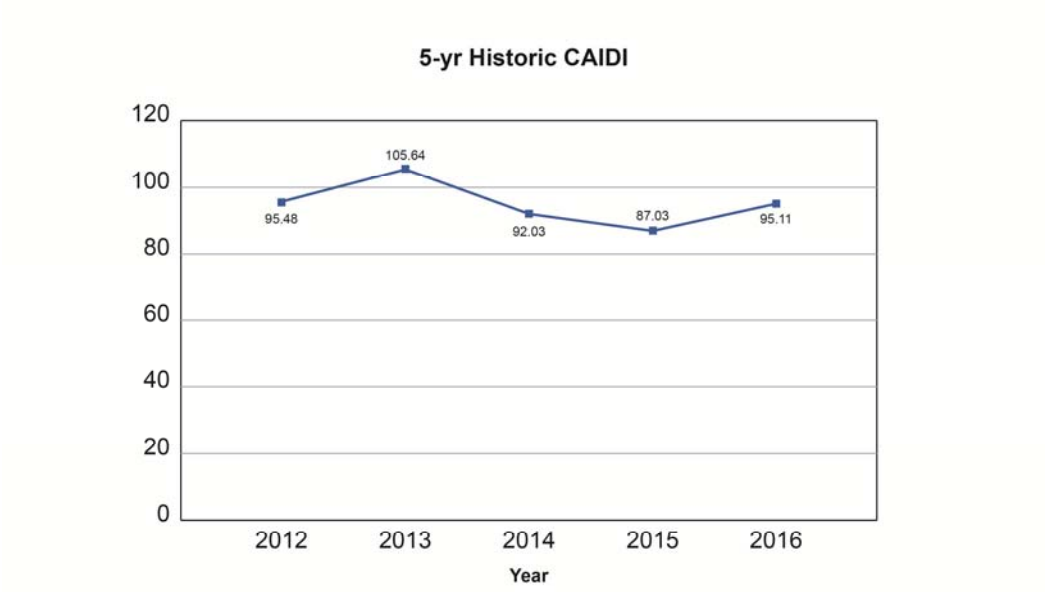
SAIDI is the System Average Interruption Duration Index. SAIDI provides the duration, in minutes, of the average time customers are interrupted.



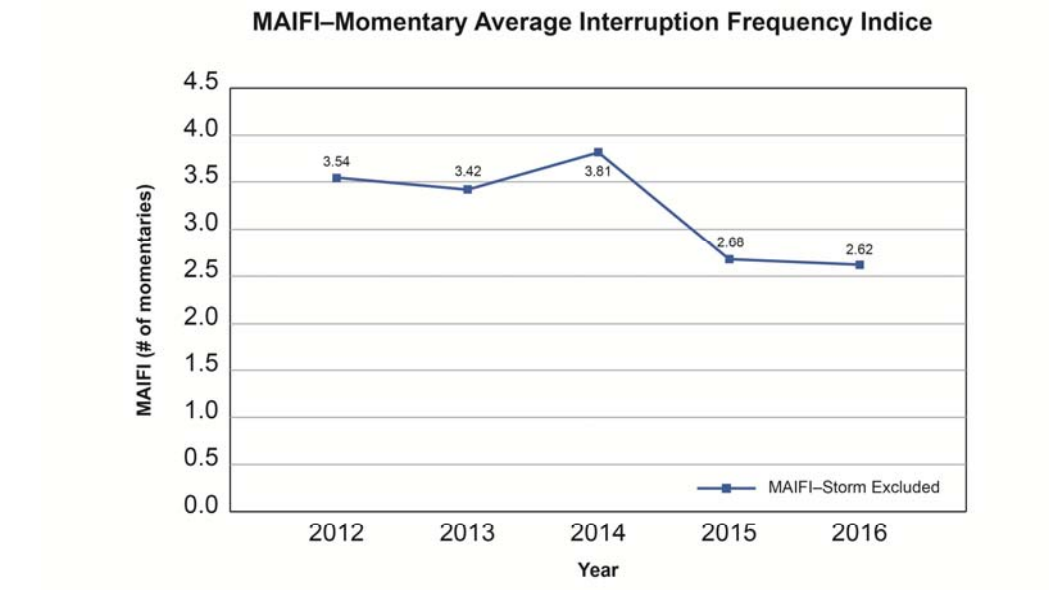
SAIFI is the System Average Interruption Frequency Index. SAIFI provides the frequency of sustained power outages (longer than five minutes) experienced by the average customer.



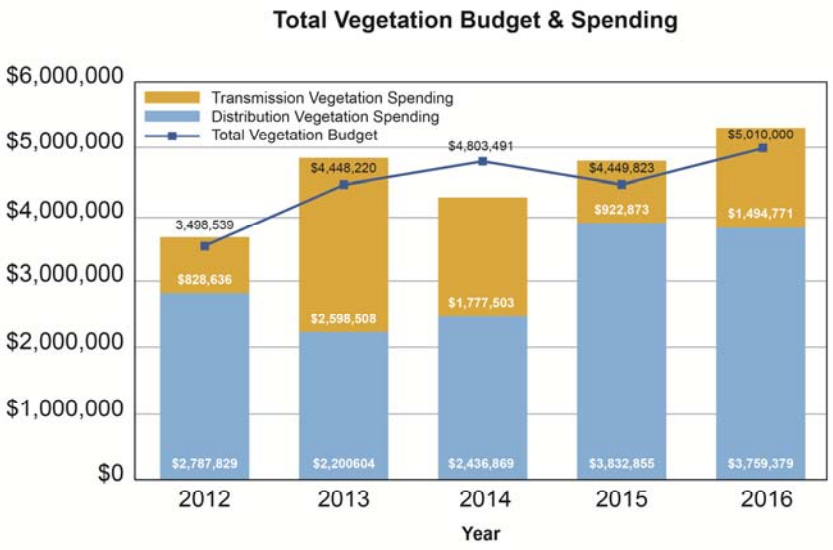
SAIFI is an indication of how many outages an average customer experiences and SAIDI is an indication of how long the average customer is without power.



CAIDI is derived by dividing SAIDI by SAIFI. The statistic generally speaks to the amount of time needed to respond to an outage.

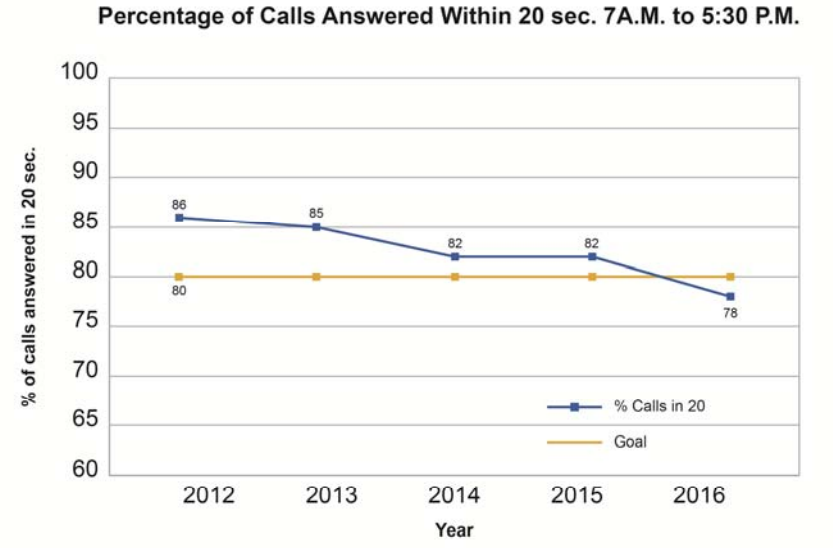


MAIFI is the Momentary Average Interruption Frequency Index.



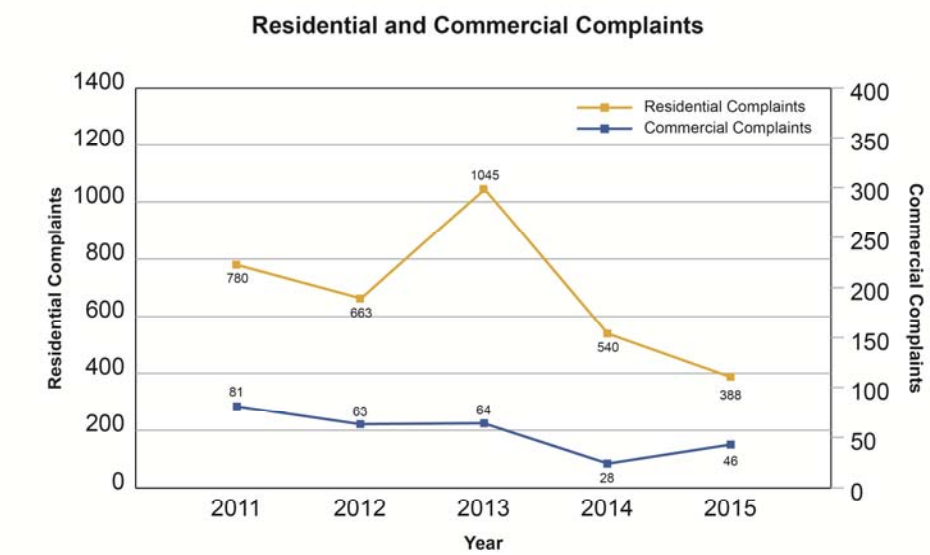
Total vegetation budget and spending on the Minnesota Power's system for 2010-2016.

*2012, 2013, 2015 Vegetation Spending was adjusted to include internal labor and overheads

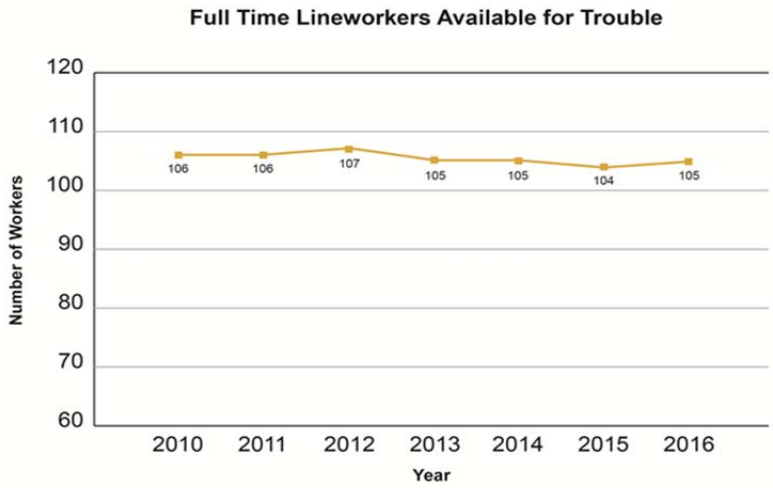


Answering a call in 20 seconds generally equates to three rings. The goal is 80 percent of calls answered in 20 seconds.

*2015 Call Response percentage was revised from 80% to 82% as noted in the 2016 SRSQ



Customer complaints are generally tracked for potential billing errors, possible inaccurate metering, wrongful disconnection, service extension intervals, and service restoration intervals as well as other issues.



Minnesota Power had 105 full-time equivalent employees in Field Operations during 2016.

VI. CONCLUSION

Minnesota Power appreciates the opportunity to provide relevant information regarding its distribution system. This information can be utilized by stakeholders to gain a better understanding of the Company's distribution system and the holistic planning that goes into maintaining the system's robustness. The multitude of factors that affect the system necessitates a nimble and forward-looking planning process. Minnesota Power works towards the goal of meeting stakeholders' needs while also maintaining the core tenants of a safe, affordable and reliable grid.

Annual Safety Reporting
Docket No. E-999/R-01-1671

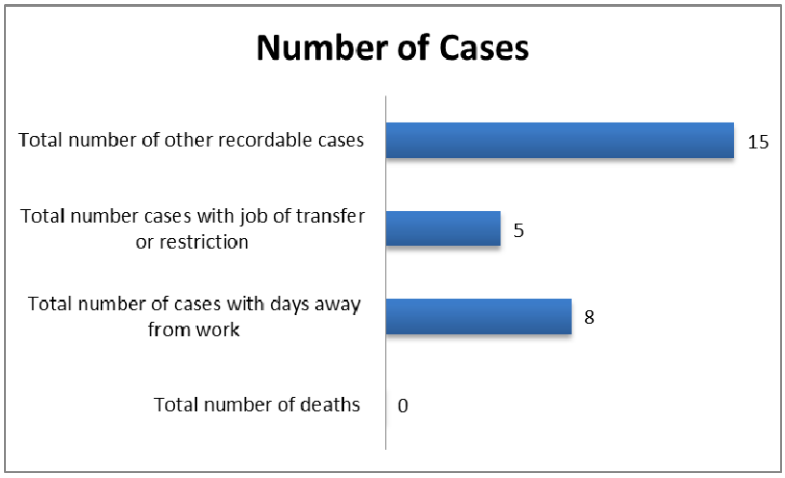
Safety, Reliability and Service Quality Standards Report

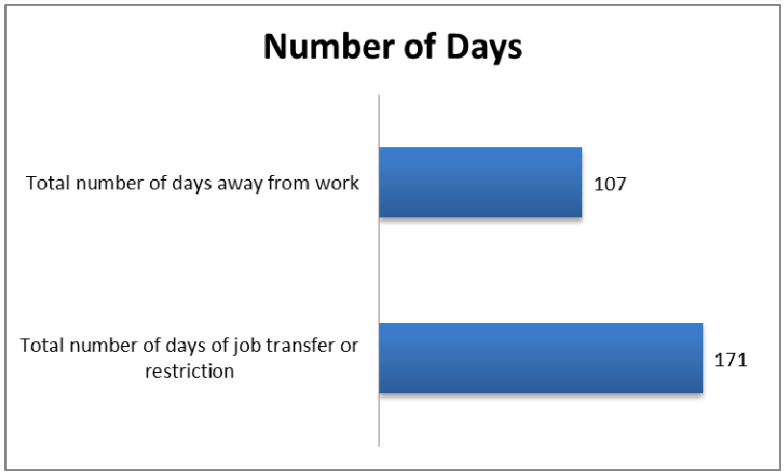
Table of Contents:

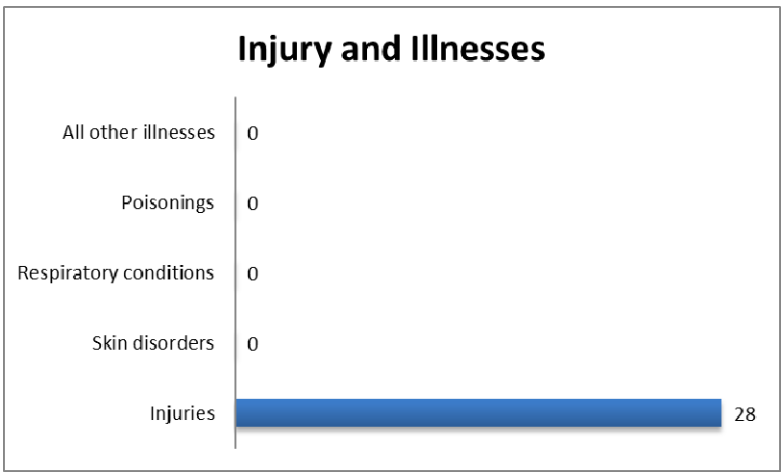
ANNUAL SAFETY REPORT

7826.0400

A. *Summaries of all reports filed with 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.*



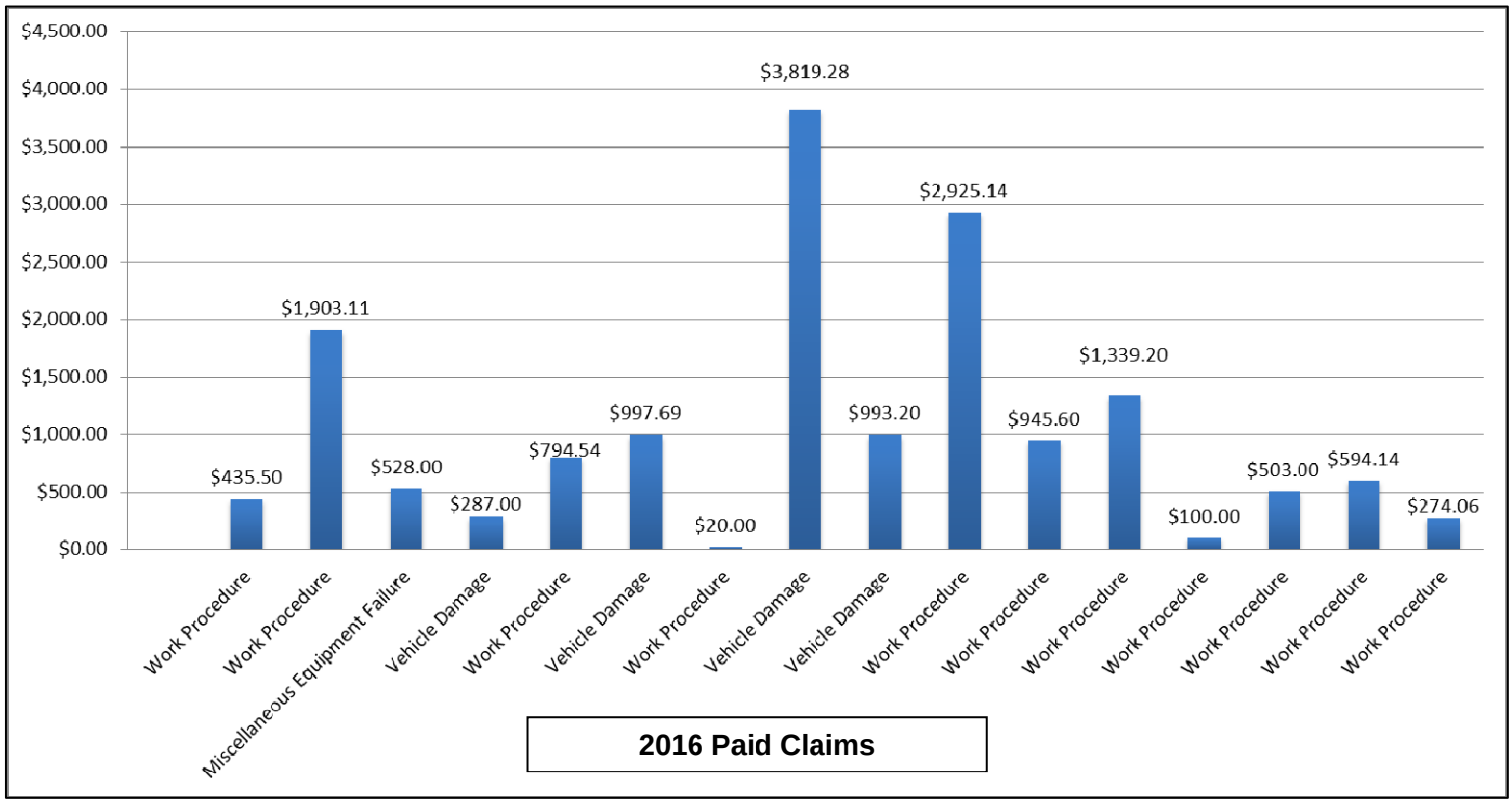




B. *A description of all incidents during the calendar year in which an injury requiring medical attention or property damage resulting in compensation occurred as a result of downed wires or other electrical system failures and all remedial action taken as a result of any injuries or property damage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

There were no incidents in 2016 in which injuries requiring medical attention occurred as a result of downed wires or other electrical system failures.

A listing of all incidents in which property damage resulting in compensation occurred as a result of downed wires or other electrical system failures and the remedial actions taken is included in the following table:



Reliability Reporting Requirements

7826.0500

The utility's SAIDI, SAIFI and CAIDI are calculated using the data excluded by the IEEE 2.5 beta method (data from major event days). Included are the causes of outages occurring on major event days as well as the outage data using two different methods and detailed explanations of the differences: A major event is excluded based on the 2.5 beta method defined by the IEEE Standard for Distribution Reliability. The normalization process is designed to remove all outage records attributed to a specific, major event such as a large storm. Non-Major Event normalized means that all major events such as a wind storms, ice storms, etc, are included in the reliability calculations. Since there were seven excluded events in 2016, these values are different from the Major Event normalized values.

A. *The utility's SAIDI for the calendar year by work center and for its assigned service area as a whole.*

SAIDI (in minutes) 2016	122.69

SAIDI calculated from Major Event Excluded data:

SAIDI (in minutes) 2016	1312.47

Major Event normalized using the IEEE 2.5 Beta method:

SAIDI (in minutes) 2016	122.69

Non-Major Event normalized:

SAIDI (in minutes) 2016	1435.16

B. *The utility's SAIFI for the calendar year by work center and for its assigned service area as a whole.*

SAIFI (# of outages) 2016	1.29

SAIFI calculated from Major Event Excluded data:

SAIFI (# of outages) 2016	1.09

Major Event normalized using the IEEE 2.5 Beta method:

SAIFI (# of outages) 2016	1.29

Non-Major Event normalized:

SAIFI (# of outages) 2016	2.38

.

C. *The utility's CAIDI for the calendar year by work center and for its assigned service area as a whole.*

CAIDI (outage min/customer) 2016	95.40

CAIDI calculated from Major Event Excluded data:

CAIDI (outage min/customer) 2015	1204.10

Major Event normalized using the IEEE 2.5 Beta method:

CAIDI (outage min/customer) 2016	95.40

Non-Major Event normalized:

CAIDI (outage min/customer) 2015	603.01

D. *An explanation of how the utility normalizes its reliability data to account for major storms.*

In 2016, there were three major events excluded based on the 2.5 beta method defined by the IEEE Standard for Distribution Reliability. The normalization process is designed to remove all outage records attributed to a specific major event, such as a large storm. At Minnesota Power, normalization is performed only when the following criterion is met for a major event:

Daily SAIDI is greater than the Threshold for Major Event Days:

As storms occur, customers call into Minnesota Power representatives and/or the Interactive Voice Response ("IVR") system to report outages. Those calls are then used to create trouble orders using a prediction engine within our Outage Management System ("OMS"). That information, along with information from other sources (Operations Log, and Telemetric's emails) is entered into a database for comparison. Often the weather event will have been detected by multiple sources. Duplications are eliminated and an accurate time and duration for each event is calculated.

Once all data streams have been combined and duplications have been eliminated, the resulting database is analyzed by the Reliability Engineer. The database is queried to look for timeframes when the Company SAIDI has incurred an incremental increase above the Threshold for Major Event Days. When sets of data are discovered that meet the criterion discussed above, that data is flagged and set aside. What remains is Minnesota Power's Storm Normalized Data.

Threshold for Major Event Day calculation description:

A Threshold for a major event day (Tmed) is computed once per year. First, assemble the 5 most recent years of historical values of daily SAIDI and discard any day with a SAIDI value of zero. Then, compute the natural log of each SAIDI value and compute the average (alpha) and standard deviation (beta) of the natural logarithms. The major event day threshold can then be found by using this equation: Tmed = exp (alpha + 2.5*beta). If any day in the next year has SAIDI greater than Tmed, it qualifies as a major event day. Note that an excluded event is not limited to a single day and may span consecutive days depending on the severity of the event.

As stated earlier, storm normalization is designed to exclude data from rare, major events that may skew the overall data. Three weather related major events were excluded in 2016. There were two events excluded in 2015. There were three events excluded in 2014. There were zero excluded events in 2011. There was one storm excluded event in 2010 that spanned two days. In 2009, there were zero excluded events. There were two storm excluded events in 2008 that met the Threshold for Major Event Day criterion. In 2007, there were two storm excluded events and there were also two events that met the second criteria (10 minutes added to SAIDI), but did not meet the first criteria of affecting at least 12 percent of Minnesota Power's customers. In 2006, two events met the first criteria (12 percent of customers);

however none met the second requirement of increasing SAIDI by 10 minutes. Therefore, no events were excluded in 2006.

E. *An action plan for remedying any failure to comply with the reliability standards set forth at part 7826.0600 or an explanation as to why non-compliance was unavoidable under the circumstances.*

Minnesota Power was unsuccessful in meeting our proposed thresholds for both SAIDI and SAIFI in 2016. The theme of this year was 'Bad Weather'; there were several incidents that were out of our control in terms of outages. Duluth experienced its worst storm in almost 15 years. This, coupled with an unusual spurt of vehicle accidents, was the leading reason our goals were not met this year. Our vegetation management cycles are active and have helped to reduce the number of tree-caused outages this year. Downtown Duluth did see several outages due to the failure of the last of the paper insulated lead cable. Most of the lead cable has been removed, with the rest projected to be removed by end of 2019. To help with the restoration process in 2017 Minnesota Power is looking into increasing the use of the switch maintenance program, and installing smart sensors.

Minnesota Power used the 2.5 Beta method for excluding seven storm related outages, which included the exclusion of three weather related major events in 2016.

F. *To the extent technically and administratively 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.*

199 Line –

- On **July 21, 2016**, 199 Line locked out due to the massive storm that hit northern Minnesota. No customers are fed off this line. Storm damage was fixed and power was restored to the line. No follow up is needed.

23 Line –

- On **June 19, 2016,** 23 Line locked out due to weather in the area. This caused Askov and Kerrick customers to be without power. 696 customers were without power for an average of 43 mins. Crews were able to safely fix the storm damage and restore power. No follow up is needed**.**

32 Line –

- On **March 28, 2016,** 32 Line locked out due to possible contact by a contractor. This caused Tower to be without power for 82 minutes. The Company followed up by speaking with contractors about safety.
- On **July 21, 2016,** 32 Line locked out due to storms. This caused Tower to be without power for 187 minutes while crews worked to fix the storm damage. No follow up is needed.

59 Line –

- On **June 13, 2016,** 59 Line locked out due to a tree on the lines. The event affected 3,473 customers while crews worked to remove the tree. Customers were without power for an average of 28 minutes. Our vegetation management team is working to stay on our planned clearing cycle.

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 H requires that Minnesota Power report on the Company's worst performing circuit for each work center. Since Minnesota Power considers our entire service area a single work center, this would result in only one circuit being reported. As in the past, rather than listing only one feeder, the four worst performing feeders (2 urban and 2 rural) are identified. This is done in recognition of how reliability indices are affected by differing characteristics of feeder length and quantity of customers. The feeder evaluation process utilized high feeder SAIDI and high total customer-minutes of outage (i.e. # customers X SAIDI) as criteria for selection of two urban and two rural feeders.

Worst Performing Feeders Using Major Event Normalized Data

Criteria	Circuit	# Customers	SAIDI	SAIFI	CAIDI
High Feeder SAIDI (Urban)	Swan Lake Road 203	1	1,357.00	24	56.54
High Customer Outage Minutes (Urban)	LSPI 223	1126	961.23	7.29	131.86
High Feeder SAIDI (Rural)	Ely Lake, Woodlawn Point	10	1,039.00	4.90	212.04
High Customer Outage Minutes (Rural)	Colbyville 240	3245	198.81	2.26	87.97

Swan Lake Road 203 –

- On the 19th of March the feeder was without power for 274 minutes.
- On the 15th of June a tree caused the feeder to be without power for 60 minutes.
- On the 16th of June an unknown fault led to an outage of 18 minutes.

LSPI 223 –

- On the 9th of January an insulator failing caused 1,126 customers to be without power for an average of 345 mins.
- On the 27th of January cutout and arrestors on a cap bank failed causing 1,126 customers to be without power for an average of 134 minutes.
- On the 25th of June a storm caused 1126 customer to be without power for an average of 201 minutes while crews worked to safely restore power to the feeder.
- On the 7th of July the feeder locked out to an unknown cause. This affected the entire 1,126 customer for an average of 78 minutes.
- On the 30th of July the feeder was without power due to another unknown cause, affecting the 1126 customer for an average of 53 minutes.
- On the 29th of August the feeder locked out to another storm. The feeders 1,126 customers were without power for an average of 82 minutes.

Ely Lake, Woodlawn Point –

- On the 5th of September there were 2 events. The first was an outage caused by high winds that caused 1 customer to be out for 561 minutes. The second was a tree fall that affected 4 other customers for an average of 381 minutes.

Colbyville 240 –

- On the 24th of February a truck snagged a line causing a phase to phase fault, causing 1,880 customers to be without power for an average of 113 minutes while crews worked to safely restore power.
- On the 22nd of March a switching error caused 3,245 customers to be without power for an average of 17 minutes.
- On the 5th of September a lighting strike caused 732 customers to be without power for an average of 203 minutes while the damage was repaired.

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.*

There were 20 reported instances in 2016.

Date	Account #	Trouble Order
1/27/2016	4388220000	286411-1
1/28/2016	6094400000	286489-1
2/1/2016	0385110000	286620-1
2/16/2016	5430910000	287057-1
3/12/2016	9910010000	288267-1
3/21/2016	3250616150	289078-1
4/25/2016	2265921190	290855-1
6/20/2016	1020093299	290855-1
6/24/2016	0594500000	295871-1
7/21/2016	0380131443	302961-1
7/24/2016	1510040166	306699-1
8/8/2016	0210068173	310842-1
8/29/2016	0407781121	312729-1
12/1/2016	1916000000	320114-1
1/27/2016	4388220000	286411-1
1/28/2016	6094400000	286489-1
2/1/2016	0385110000	286620-1
2/16/2016	5430910000	287057-1
3/12/2016	9910010000	288267-1
3/21/2016	3250616150	289078-1

Minnesota Power has still seen large turnover again in our service dispatch department. Two of our dispatchers were hired just this year. The Company's process for recording and tracking ANSI voltage violations has improved but Minnesota Power is still working on the best solution as to where to record and store this data. Our current method is to record violations in a separate field on the trouble orders within our Outage Management System. That being said, there is an existing process that our trouble crews complete on paper that captures the voltage recordings that are taken on the Minnesota Power side of the meter which would possibly rule out some of the reported incidents in 2016 as being customer-related non-reportable events.

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.*

Minnesota Power had on average 100 full-time equivalent field employee positions in 2016 responsible for responding to trouble calls and for the operation and maintenance of distribution lines. We are currently budgeted for 104 and are hiring 3-9 more due to retirements and current openings.

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

Minnesota Power has no additional information to report at this time.

RELIABILITY STANDARDS

7826.0600
Subpart 1

A. *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, subp. 11.*

Minnesota Power proposes the following weather-excluded reliability indices as targets not to exceed in 2017:

SAIDI =	104.61
SAIFI =	1.10
CAIDI =	95.1

The SAIDI target is calculated as an average of the last five years of actual SAIDI performance.

The SAIFI target is calculated as an average of the last five years of actual SAIFI performance.

The CAIDI target is calculated as SAIDI divided by SAIFI.

REPORTING METER-READING PERFORMANCE

7826.1400

The annual service quality report shall include a detailed report on the utility's meter-reading performance, including, for each customer class and for each calendar month:

A. *The numbers and percentages of customer meters read by utility personnel.*

Residential

Month	Company Reads	Estimates	Total	% Read	System Total	% Read of System Total
Jan-16	128,782	918	129,700	**99.29%**	148,928	86.47%
Feb-16	128,203	947	129,150	**99.27%**	149,009	86.04%
Mar-16	128,106	1,012	129,118	**99.22%**	149,155	85.89%
Apr-16	127,518	4,013	131,531	**96.95%**	149,215	85.46%
May-16	119,077	1,039	120,116	**99.14%**	149,203	79.81%
Jun-16	125,997	2,835	128,832	**97.80%**	149,158	84.47%
Jul-16	137,131	3,378	140,509	**97.60%**	148,512	92.34%
Aug-16	127,469	2,269	129,738	**98.25%**	149,525	85.25%
Sep-16	116,463	2,871	119,334	**97.59%**	149,595	77.89%
Oct-16	141,359	1,087	142,446	**99.24%**	149,809	94.36%
Nov-16	121,066	877	121,943	**99.28%**	149,932	80.75%
Dec-16	137,822	1,073	138,895	**99.23%**	150,033	91.86%
2016 Average	128,249	1,860	130,109	98.57%	149,340	85.88%

Commercial

Month	Company Reads	Estimated	Total	% Read	System Total	% Read of System Total
Jan-16	20,629	28	20,657	**99.86%**	148,928	13.85%
Feb-16	20,269	40	20,309	**99.80%**	149,009	13.60%
Mar-16	20,434	97	20,531	**99.53%**	149,155	13.70%
Apr-16	21,296	28	21,324	**99.87%**	149,215	14.27%
May-16	19,149	23	19,172	**99.88%**	149,203	12.83%
Jun-16	20,044	43	20,087	**99.79%**	149,158	13.44%
Jul-16	22,159	30	22,189	**99.86%**	148,512	14.92%
Aug-16	20,136	30	20,166	**99.85%**	149,525	13.47%
Sep-16	19,393	27	19,420	**99.86%**	149,595	12.96%
Oct-16	21,934	26	21,960	**99.88%**	149,809	14.64%
Nov-16	19,796	21	19,817	**99.89%**	149,932	13.20%
Dec-16	21,441	30	21,471	**99.86%**	150,033	14.29%
2016 Average	20,557	35	20,592	0.998286	149,340	13.77%

Industrial

Month	Company Reads	Estimated	Total	%Read	System Total	% Read of System Total
Jan-16	405	0	405	**100.00%**	148,928	0.27%
Feb-16	400	0	400	**100.00%**	149,009	0.27%
Mar-16	405	0	405	**100.00%**	149,155	0.27%
Apr-16	413	0	413	**100.00%**	149,215	0.28%
May-16	413	0	413	**100.00%**	149,203	0.28%
Jun-16	394	0	394	**100.00%**	149,158	0.26%
Jul-16	419	1	420	**99.76%**	148,512	0.28%
Aug-16	401	1	402	**99.75%**	149,525	0.27%
Sep-16	395	0	395	**100.00%**	149,595	0.26%
Oct-16	404	0	404	**100.00%**	149,809	0.27%
Nov-16	401	0	401	**100.00%**	149,932	0.27%
Dec-16	402	0	402	**100.00%**	150,033	0.27%
2016 Average	404	0	405	**99.96%**	149,340	0.27%

Municipal Pumping

Month	Company Reads	Estimated	Total	%Read	System Total	% Read of System Total
Jan-16	283	0	283	**100.00%**	148,928	0.19%
Feb-16	279	0	279	**100.00%**	149,009	0.19%
Mar-16	289	0	289	**100.00%**	149,155	0.19%
Apr-16	311	0	311	**100.00%**	149,215	0.21%
May-16	273	0	273	**100.00%**	149,203	0.18%
Jun-16	261	0	261	**100.00%**	149,158	0.17%
Jul-16	316	0	316	**100.00%**	148,512	0.21%
Aug-16	269	0	269	**100.00%**	149,525	0.18%
Sep-16	251	0	251	**100.00%**	149,595	0.17%
Oct-16	313	0	313	**100.00%**	149,809	0.21%
Nov-16	271	0	271	**100.00%**	149,932	0.18%
Dec-16	297	0	297	**100.00%**	150,033	0.20%
2016 Average	284	-	284	**100.00%**	149,340	0.19%

Lighting

Month	Company Reads	Estimated	Total	% Read	System Total	% Read of System Total
Jan-16	332	0	332	**100.00%**	148,928	0.22%
Feb-16	326	0	326	**100.00%**	149,009	0.22%
Mar-16	331	0	331	**100.00%**	149,155	0.22%
Apr-16	359	1	360	**99.72%**	149,215	0.24%
May-16	312	0	312	**100.00%**	149,203	0.21%
Jun-16	334	0	334	**100.00%**	149,158	0.22%
Jul-16	355	0	355	**100.00%**	148,512	0.24%
Aug-16	332	0	332	**100.00%**	149,525	0.22%
Sep-16	332	0	332	**100.00%**	149,595	0.22%
Oct-16	362	0	362	**100.00%**	149,809	0.24%
Nov-16	332	0	332	**100.00%**	149,932	0.22%
Dec-16	353	0	353	**100.00%**	150,033	0.24%
2016 Average	338	0	338	**99.98%**		0.23%

B. *The numbers and percentages of customer meters self-read by customers*.

Residential

Month	Customer Reads	Estimates	Total	% Read	System Total	% Read of System Total
Jan-16	62	7	69	**89.86%**	148,928	0.04%
Feb-16	65	5	70	**92.86%**	149,009	0.04%
Mar-16	60	8	68	**88.24%**	149,155	0.04%
Apr-16	59	10	69	**85.51%**	149,215	0.04%
May-16	59	6	65	**90.77%**	149,203	0.04%
Jun-16	53	9	62	**85.48%**	149,158	0.04%
Jul-16	68	9	77	**88.31%**	148,512	0.05%
Aug-16	58	10	68	**85.29%**	149,525	0.04%
Sep-16	50	12	62	**80.65%**	149,595	0.03%
Oct-16	69	8	77	**89.61%**	149,809	0.05%
Nov-16	54	9	63	**85.71%**	149,932	0.04%
Dec-16	61	11	72	**84.72%**	150,033	0.04%
2016 Average	60	9	69	**87.25%**	149,340	0.04%

Commercial

Month	Customer Reads	Estimated	Total	% Read	System Total	% Read of System Total
Jan-16	14	-	14	**100.00%**	148,928	0.01%
Feb-16	12	-	12	**100.00%**	149,009	0.01%
Mar-16	14	-	14	**100.00%**	149,155	0.01%
Apr-16	12	-	12	**100.00%**	149,215	0.01%
May-16	14	-	14	**100.00%**	149,203	0.01%
Jun-16	15	-	15	**100.00%**	149,158	0.01%
Jul-16	14	-	14	**100.00%**	148,512	0.01%
Aug-16	12	1	13	**92.31%**	149,525	0.01%
Sep-16	13	-	13	**100.00%**	149,595	0.01%
Oct-16	13	1	14	**92.86%**	149,809	0.01%
Nov-16	12	1	13	**92.31%**	149,932	0.01%
Dec-16	12	1	13	**92.31%**	150,033	0.01%
2016 Average	13	0	13	0.9748168	149,340	0.01%

Industrial

No Self-reads

Municipal Pumping

No Self-reads

Lighting

No Self-reads

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

Residential/Commercial/ Industrial /Municipal Pumping/Lighting

Months Estimated	Company Read Service Points	% of Total	Not Read Reason	Customer Read Service Points	% of Total
6 Months	15	0.01%	No Access/AMR	0	0.00%
7 Months	9	0.01%	No Access/AMR	1	0.00%
8 Months	3	0.00%	No Access/AMR	0	0.00%
9 Months	5	0.00%	No Access/AMR	0	0.00%
10 Months	3	0.00%	No Access/AMR	2	0.00%
11 Months	5	0.00%	No Access/AMR	1	0.00%
12 Months	6	0.00%	No Access/AMR	1	0.00%
12+Months	12	0.01%	No Access/AMR	0	0.00%
Totals:	**58**			**5**	**0.00%**

Minnesota Rules 7820.3300 requires that meters be read annually.

Customers with Company read meters that are not read for six to twelve months are left reminder notices at the home and/or are sent reminder letters of the utility's need to access the meter. A similar process is used for customer read meters not read for over twelve months. In addition, phone calls are made to each customer in an attempt to schedule a meter reading. Disconnection warnings are issued for unresponsive accounts. In accordance with the Cold Weather Rule, no disconnections for unread meters are performed during the Cold Weather Rule months.

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

Staffing by Work Center (Minnesota Power System)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
7	7	7	8	8	8	8	8	8	7	7	7

REPORTING INVOLUNTARY DISCONNECTIONS

7826.1500

The annual service quality report must include a detailed report on involuntary disconnections of service, including, for each customer class and each calendar month:

A. *the number of customers who received disconnection notices;*
B. *the number of customers who sought cold weather rule protection under chapter 7820 and the number who were granted cold weather rule protection;*
C. *the total number of customers whose service was disconnected involuntarily and the number of these customers restored to service within 24 hours;*
D. *the number of disconnected customers restored to service by entering into a payment plan.*

	Customers Receiving Disconnection Notices			Customers who sought CWR Protection	Customer Disconnected Involuntarily			Customers Restored within 24 Hours			Customers restored to service by entering into a Payment Plan		
Month	Residential	Commercial	Industrial	Residential	Residential	Commercial	Industrial	Residential	Commercial	Industrial	Residential	Commercial	Industrial
January	969	70	2	436	78	4	0	8	0	0	24	2	0
February	1,072	63	3	416	104	2	0	5	0	0	30	0	0
March	1,012	76	2	388	115	2	0	21	0	0	33	0	0
April	1,114	65	2	93	154	3	0	8	0	0	48	1	0
May	1,540	107	3	1	358	9	0	28	0	0	124	2	0
June	1,013	78	1	1	320	9	0	36	1	0	114	1	0
July	989	67	4		119	1	0	15	0	0	44	1	0
August	802	62	4		326	8	0	12	0	0	93	4	0
September	698	54	0	1	198	4	0	19	0	0	52	0	0
October	924	74	2	384	59	3	0	27	1	0	27	1	0
November	1,113	87	4	653	43	5	0	22	0	0	22	0	0
December	945	66	2	543	59	3	0	12	0	0	23	1	0

REPORTING SERVICE EXTENSION REQUEST RESPONSE TIMES

7826.1600

The annual service quality report must include a detailed report on service extension request response times, including, for each customer class and each calendar month:

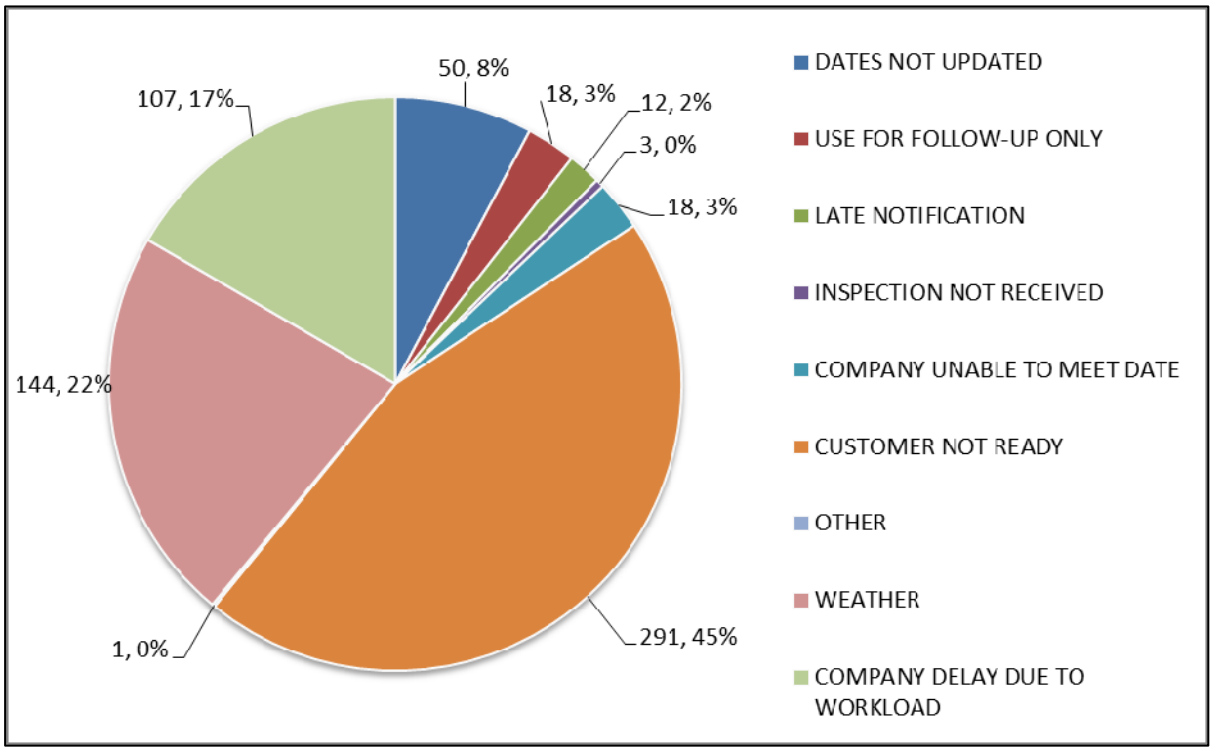
A. *The number of customers requesting service to a location not previously served by Minnesota Power and the intervals between the date service was installed and the later of the in-service date requested by the customer or the date the premises were ready for service*.

RESIDENTIAL		Date Met	1 to 10 days overdue	10 to 21 days overdue	Over 21 days overdue
Total		428	221	63	48
	January	11	0	2	0
	February	5	2	0	0
	March	5	60	2	0
	April	9	11	4	5
	May	46	18	6	2
	June	35	9	9	4
	July	34	20	4	6
	August	43	22	7	2
	September	62	10	8	6
	October	89	39	7	11
	November	64	22	9	10
	December	25	8	5	2

COMMERCIAL		Date Met	1 to 10 days overdue	10 to 21 days overdue	Over 21 days overdue
Total		406	212	45	46
	January	95	0	0	0
	February	6	0	0	0
	March	7	77	4	3
	April	15	8	0	3
	May	12	7	0	0
	June	32	4	3	7
	July	12	3	6	7
	August	20	5	5	6
	September	26	2	12	2
	October	87	19	7	13
	November	60	80	4	4
	December	34	7	4	1

INDUSTRIAL		Date Met	1 to 10 days overdue	10 to 21 days overdue	Over 21 days overdue
Total		1	3	0	3
	January	0	0	0	0
	February	0	0	0	0
	March	0	0	0	0
	April	0	2	0	0
	May	0	0	0	0
	June	0	0	0	0
	July	0	0	0	2
	August	0	0	0	0
	September	0	0	0	0
	October	0	0	0	0
	November	0	0	0	1
	December	1	1	0	0

The following chart lists the number and percentage of locations not previously served by Minnesota Power where the service was installed later than the in-service date requested by the customer or the date the premises were ready for service and the reason for the delay:



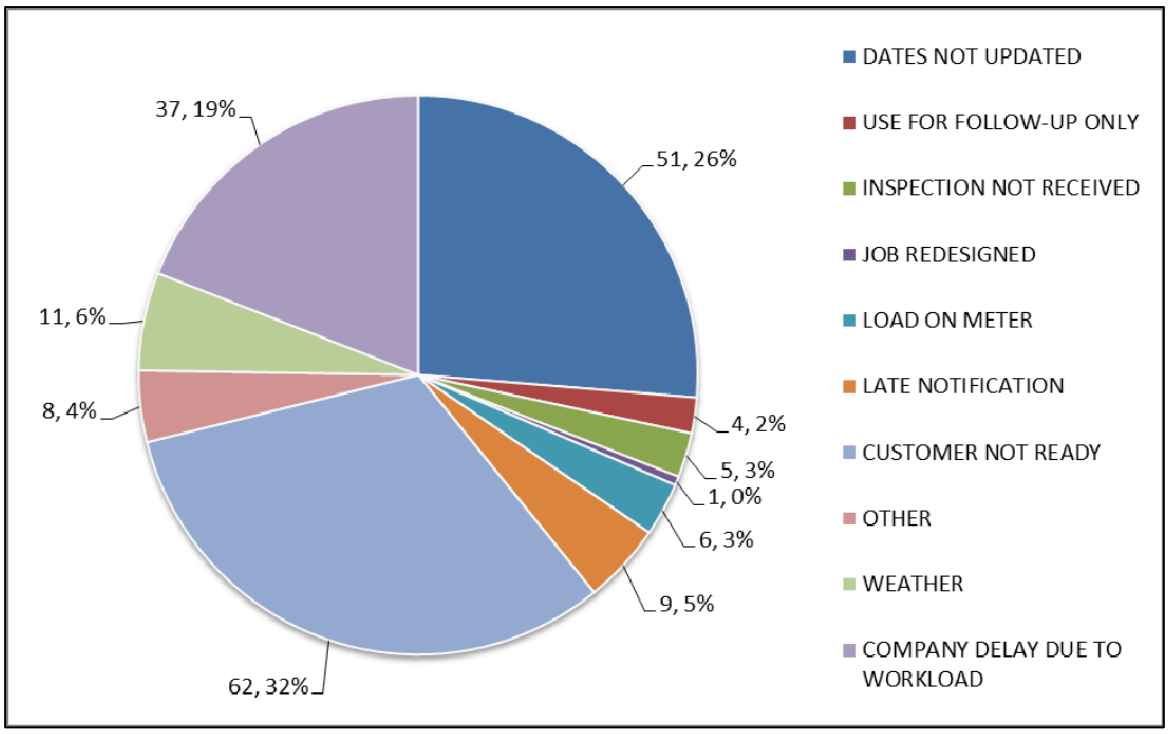
The number of customers requesting service to a location previously served by the Minnesota Power, but not served at the time of the request, and the intervals between the date service was installed and the later of the in-service date requested by the customer or the date the premises were ready for service.

RESIDENTIAL		Date Met	1 to 10 days overdue	10 to 21 days overdue	Over 21 days overdue
Total		986	90	18	15
	January	56	2	0	0
	February	45	4	0	1
	March	76	8	0	0
	April	83	7	0	0
	May	103	17	3	0
	June	116	11	0	6
	July	72	8	4	0
	August	93	6	4	0
	September	96	15	1	3
	October	91	6	4	1
	November	72	2	2	2
	December	83	4	0	2

COMMERCIAL		Date Met	1 to 10 days overdue	10 to 21 days overdue	Over 21 days overdue
Total		1427	50	8	7
	January	54	4	0	0
	February	48	6	1	2
	March	236	1	0	0
	April	299	6	0	1
	May	197	1	0	0
	June	239	6	0	0
	July	127	3	1	1
	August	54	7	0	1
	September	56	5	0	0
	October	45	3	4	0
	November	41	4	0	2
	December	31	4	2	0

INDUSTRIAL		Date Met	1 to 10 days overdue	10 to 21 days overdue	Over 21 days overdue
Total		50	1	0	0
	January	1	0	0	0
	February	0	0	0	0
	March	4	0	0	0
	April	13	0	0	0
	May	14	0	0	0
	June	7	0	0	0
	July	7	0	0	0
	August	1	1	0	0
	September	2	0	0	0
	October	1	0	0	0
	November	0	0	0	0
	December	0	0	0	0

The following table lists the number and percentage of locations previously served by Minnesota Power where the service was installed later than the in-service date requested by the customer or the date the premises were ready for service and the reason for the delay:

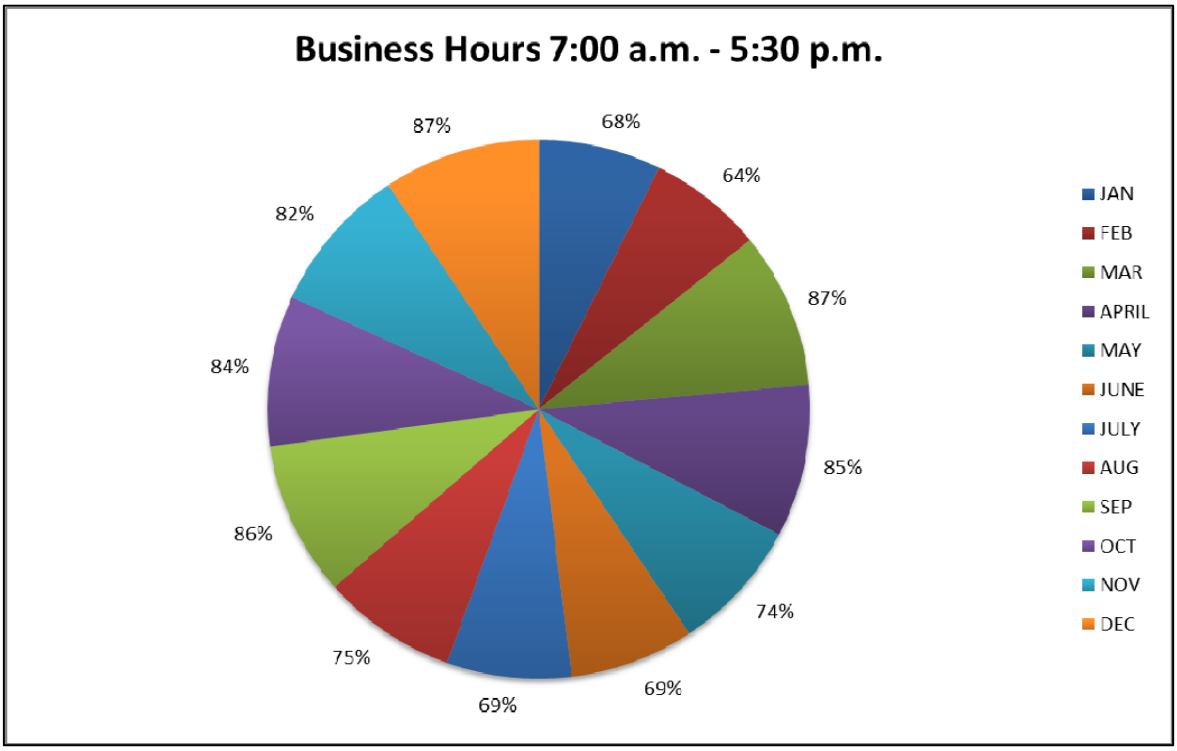


REPORTING CALL CENTER RESPONSE TIMES

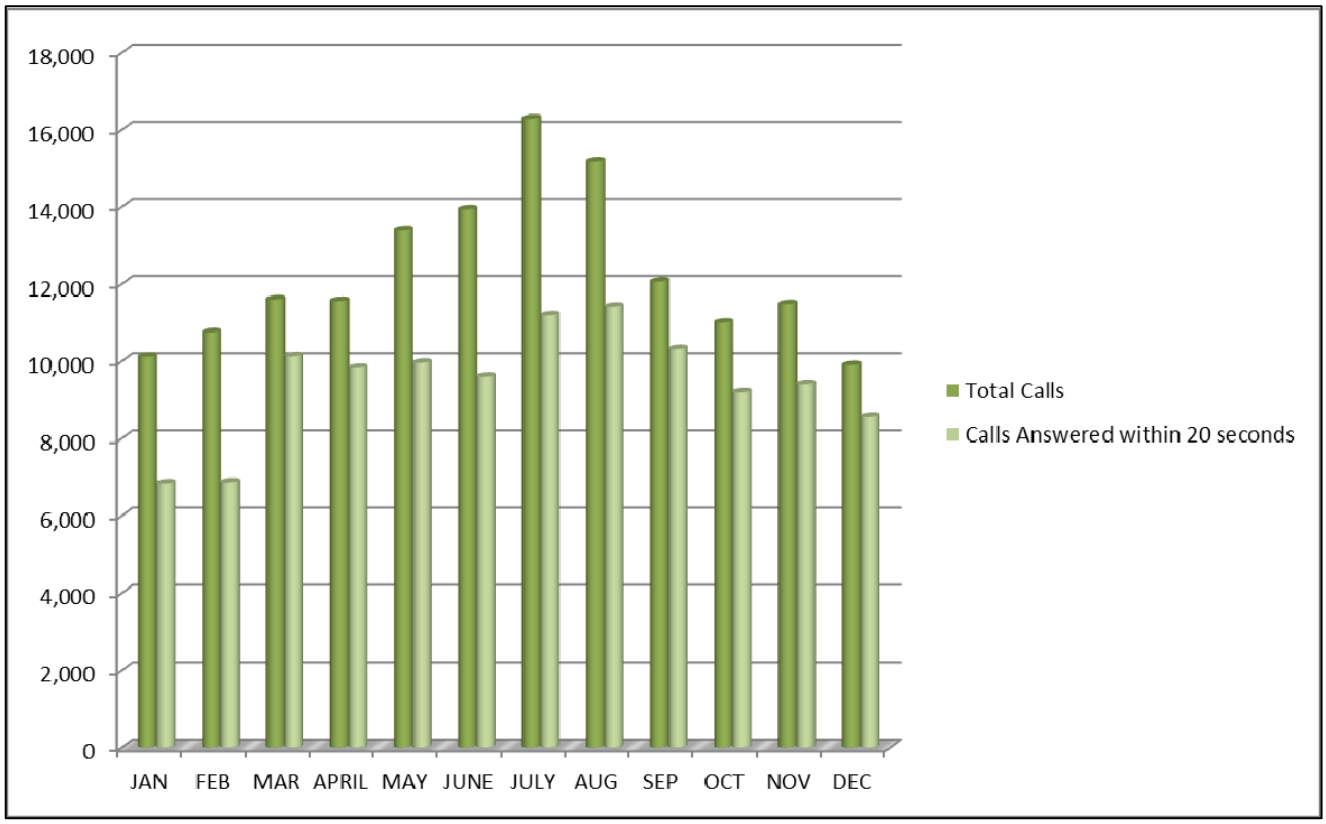
7826.1700

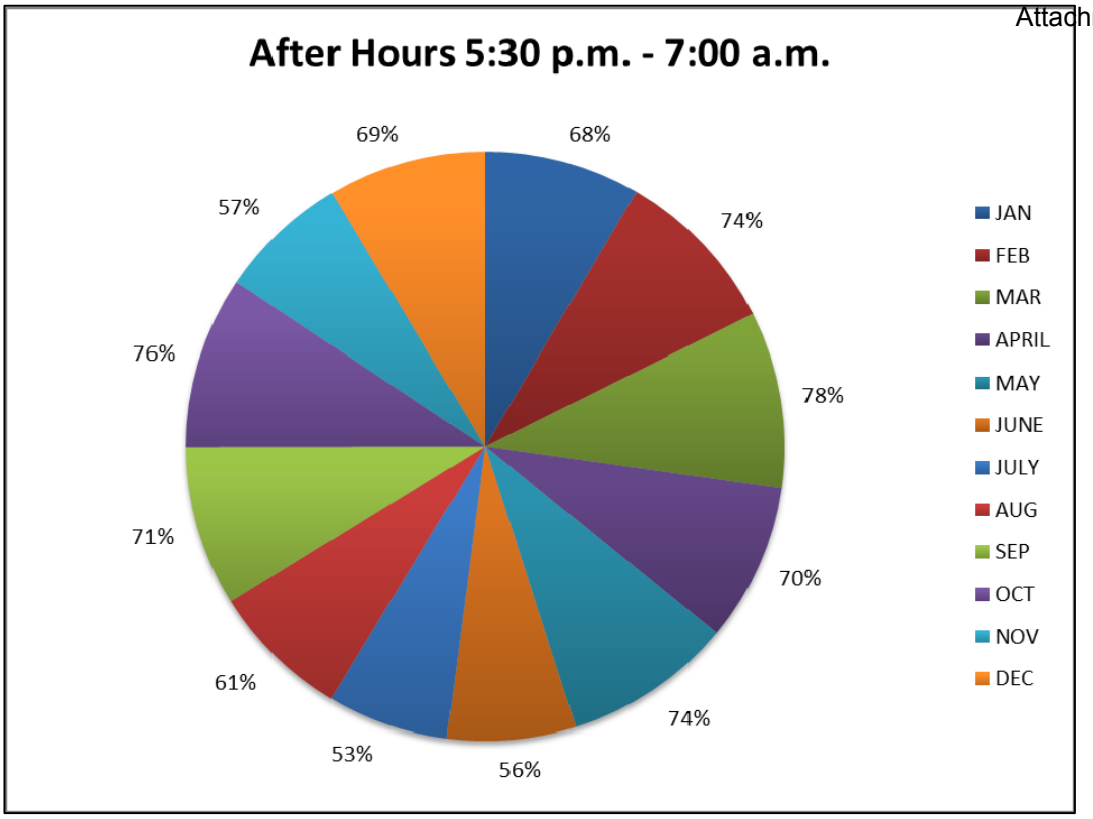
The annual service quality report must include a detailed report on call center response times, including calls to the business office and calls regarding service interruptions. The report must include a month-by-month breakdown of this information.

Year to Date Average -	78%

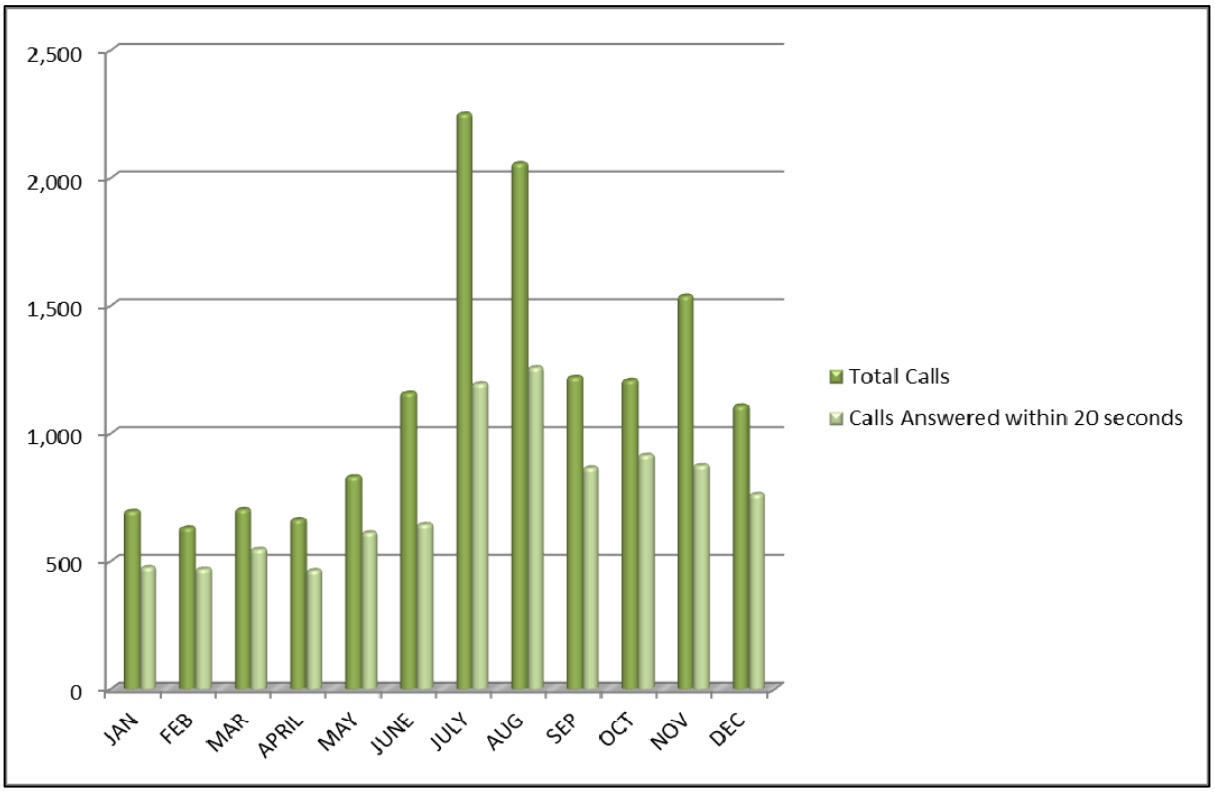


Calls Answered Business Hours





Calls Answered After Hours



All calls to Minnesota Power – whether they relate to service interruption, line extension, billing inquiries or any other subject matter – are routed through the Company's IVR unit. Customers have a menu of options within the IVR to choose from in order to address the subject of their call. The first option is to report an outage by entering a trouble order; the fifth option is to speak directly to a Call Center representative.

Calls routed to outage reporting are handled immediately through the automated trouble-order system; calls that are directed to the Call Center are manually entered into the trouble-order system by the Call Center representative.

Minnesota Power is able to use IVR data to report the number of service interruption calls; however, the IVR is unable to track a response time on an individual contact type. Calls that go to a Call Center representative are also tracked by type of contact. Like the IVR calls, Minnesota Power is able to report the number of service interruption calls; however, is unable to track a response time on an individual contact type.

In summary, Minnesota Power's response time percentage is shown as an aggregate of all calls received through the IVR and the Call Center, and the calls are not broken out by type of call because Minnesota Power is currently unable to separate response time by contact type.

Response Time:
Minnesota Power answered 78% of calls during business hours within 20 seconds, falling slightly short of the 80% goal. There are several factors that impacted our 2016 response time results, including a high number of new Call Center employees, increased credit and collections complexity, and response to an extraordinary storm event.

New Employees:
Of the 24 Customer Information Representatives (CIRs) employed at the end of 2016, 12 were hired within the previous 12 months; 9 of the 12 replaced CIRs who left the Call Center for advancement within ALLETE/Minnesota Power. The Company thoroughly trains, mentors and coaches new CIRs (approximately 300 hours per CIR). With the high turnover rate and the time to train new CIRs, the Call Center rarely had full staffing on the phones in 2016. Inexperienced staff also tends to have longer call handle times.

Credit and Collection:
Minnesota Power implemented an upgrade to its Customer Information System (CIS) in May 2015. In preparation for the implementation, the Company's credit and collections activity was temporarily curtailed from April 2015 through mid-June 2015. No disconnect warnings were sent and no disconnects for non-payment were completed in May and June 2015. As a consequence of this reduced 2015 credit and collections activity, we had customers that carried more debt from 2015 through the Cold Weather Rule period into the spring of 2016. As in past years, call volume increased in the spring as customers came off Cold Weather Rule protection. Agent handle time was elevated due to the complex nature of these calls about large balances and due to the inexperience of our work force.

Extraordinary Storm:
During the early morning hours of July 21, 2016, a severe storm ripped through northern Minnesota, knocking down thousands of trees and power lines. Over 46,000 customers were without power, many for several days. A high volume of calls were received during the early days of this storm response. The Company responded to this high volume by

scheduling considerable overtime for CIRs, bringing in former CIRs to take phone calls and having the Call Center from affiliate Superior Water, Light and Power take service outage calls. Nevertheless, it was difficult to keep up with the high call volume. If the three highest call-volume days of this extraordinary storm event are excluded, Minnesota Power's July call response rate during business hours was 79%.

Actions:
Minnesota Power takes its inability to meet the 80% call response goal in 2016 very seriously. In response, and in anticipation of continued turnover in the Call Center, the Company hired two additional CIRs in first quarter 2017. In addition, the Company is in the process of filling a new position, Lead Quality Assurance Specialist, to increase call monitoring and coaching for CIRs.

In 2016 the Company worked with our telephone system provider to develop improved reporting to track events that produce large customer call volumes. With the improved reporting Minnesota Power can evaluate its response time, calls offered and calls answered in time segments of a high-call-volume event to better plan staffing and resource demands in future events.

REPORTING EMERGENCY MEDICAL ACCOUNT STATUS

7826.1800

The annual service quality report must include the number of customers who requested emergency medical account status under Minn. Stat. §216B.098, subd. 5, the number whose applications were granted, and the number whose applications were denied, and the reasons for each denial.

In 2016, Minnesota Power had 144 customers request emergency medical account status. All 144 requests were granted after each provided Minnesota Power with signed physician documentation indicating need. All documentation is on file and available upon request.

REPORTING CUSTOMER DEPOSITS

7826.1900

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

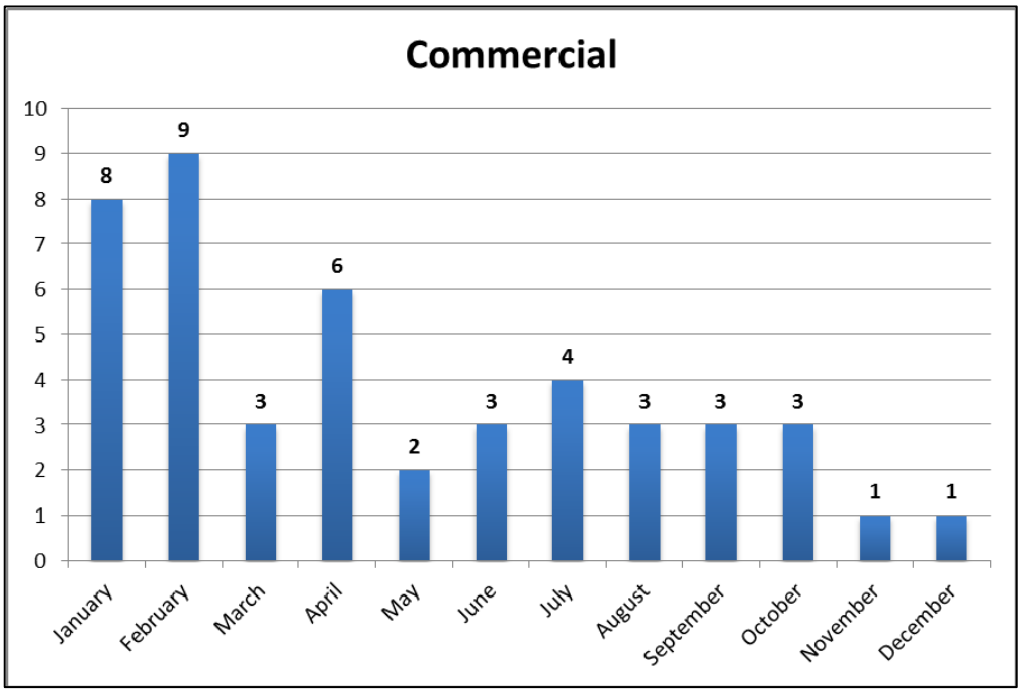
Minnesota Power refunded all deposits in 2014. Collection of deposits will be reconsidered in the future.

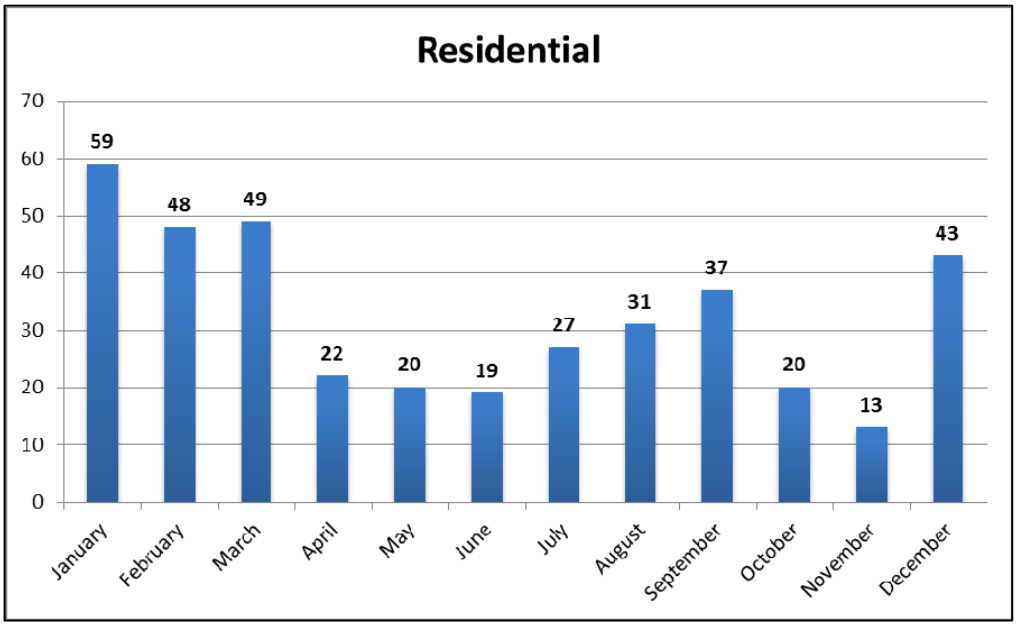
REPORTING CUSTOMER COMPLAINTS

7826.2000

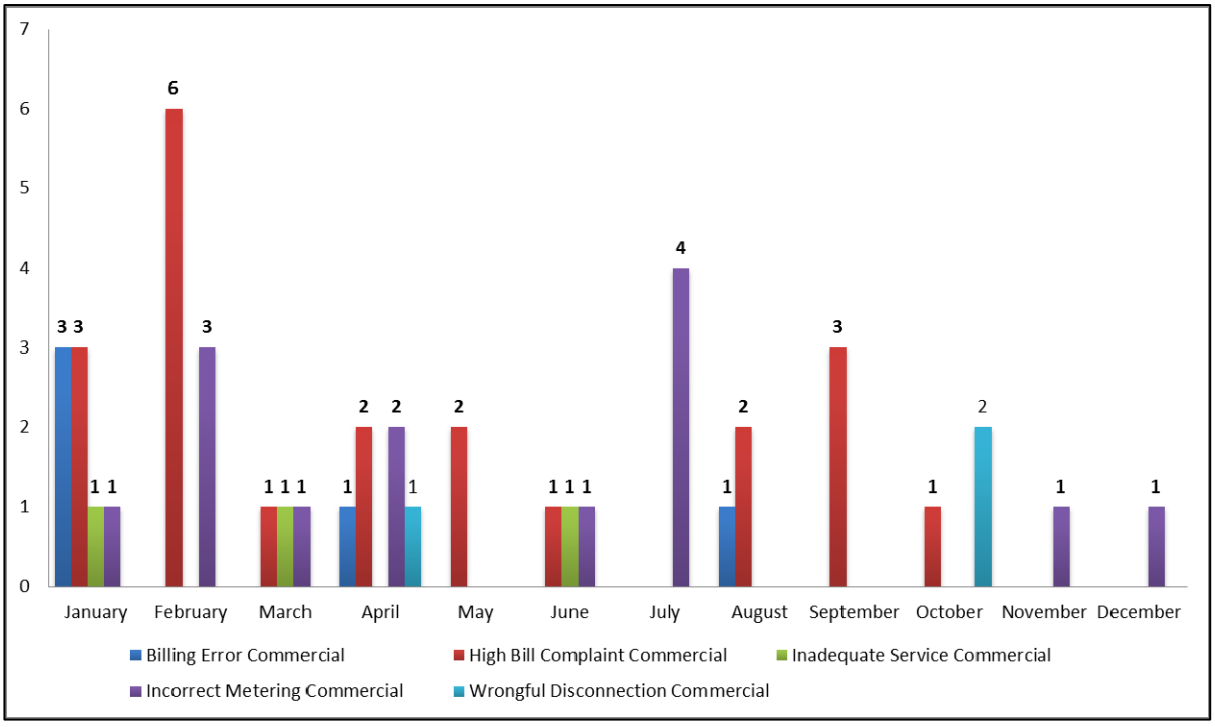
The annual service quality report must include a detailed report on complaints by customer class and calendar month, including at least the following information: (Any complaints for customer classes other than Commercial and Residential are handled individually and as such not recorded in Minnesota Power's Customer Information System.)

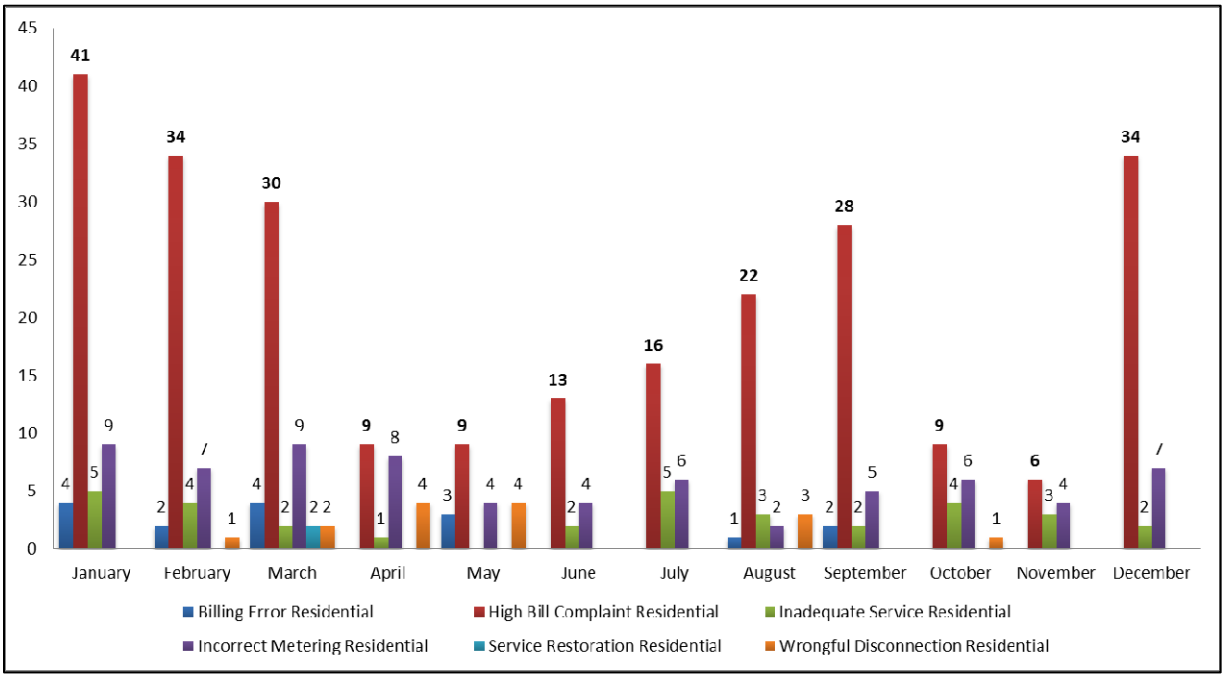
A. *The number of complaints received*.



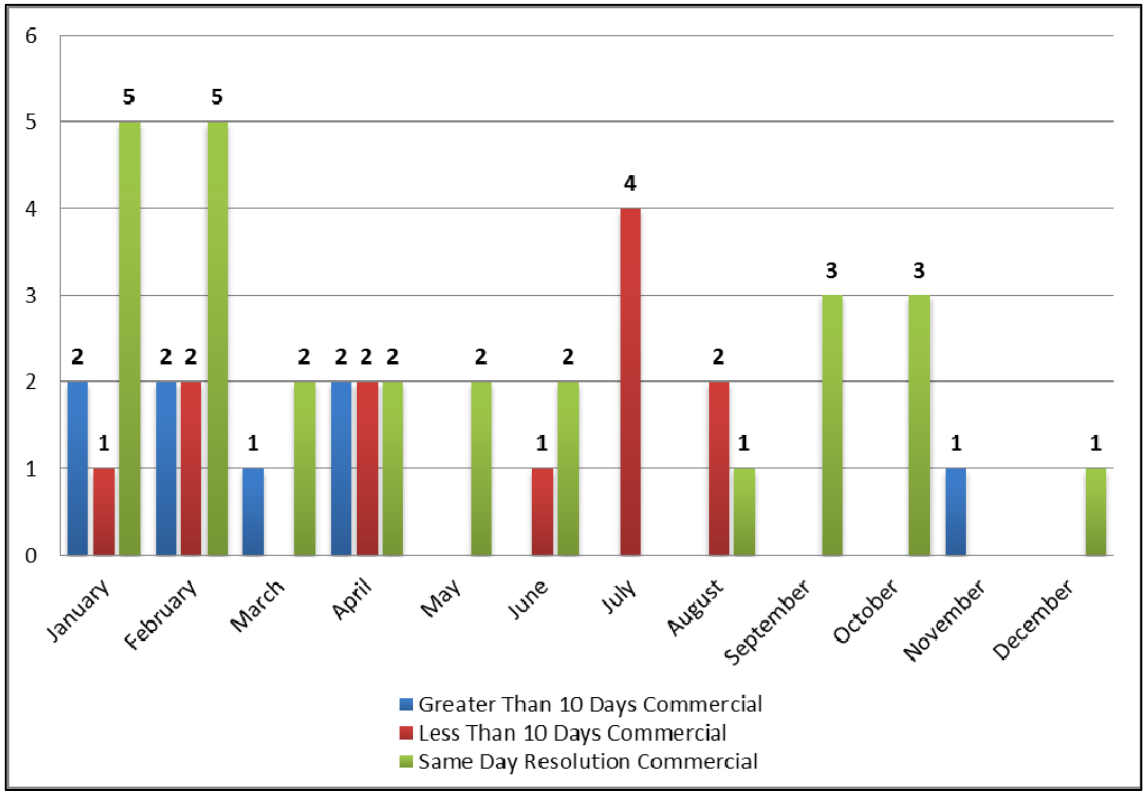


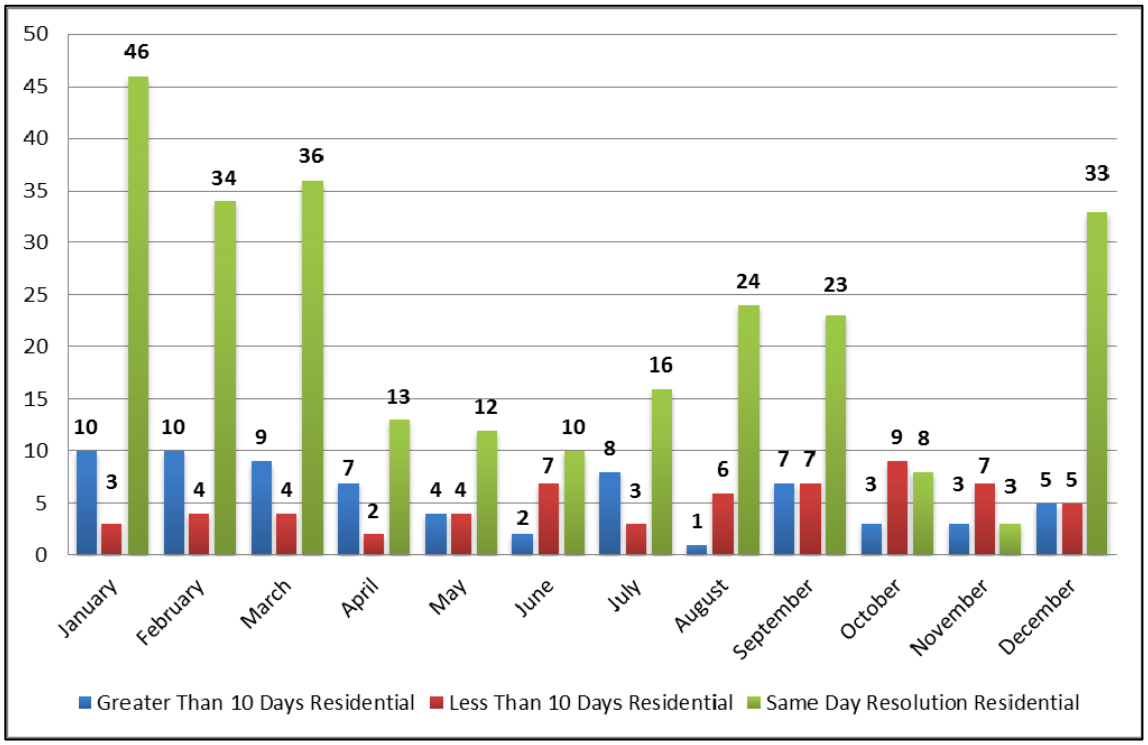
B. The number and percentage of complaints alleging billing errors, inaccurate metering, wrongful disconnection, high bills, inadequate service, and the number involving service extension intervals, service restoration intervals, and any other identifiable subject matter involved in five percent or more of customer complaints.



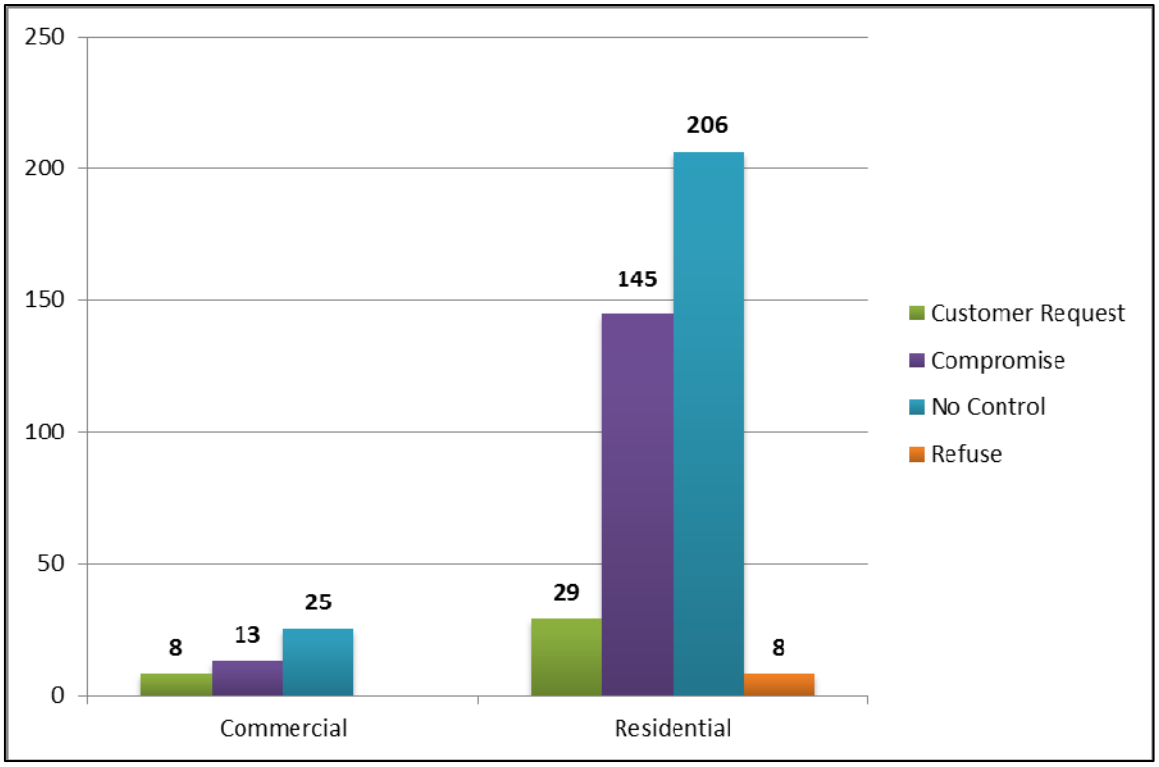


C. *The number and percentage of complaints resolved upon initial inquiry, within ten days, and longer than ten days.*



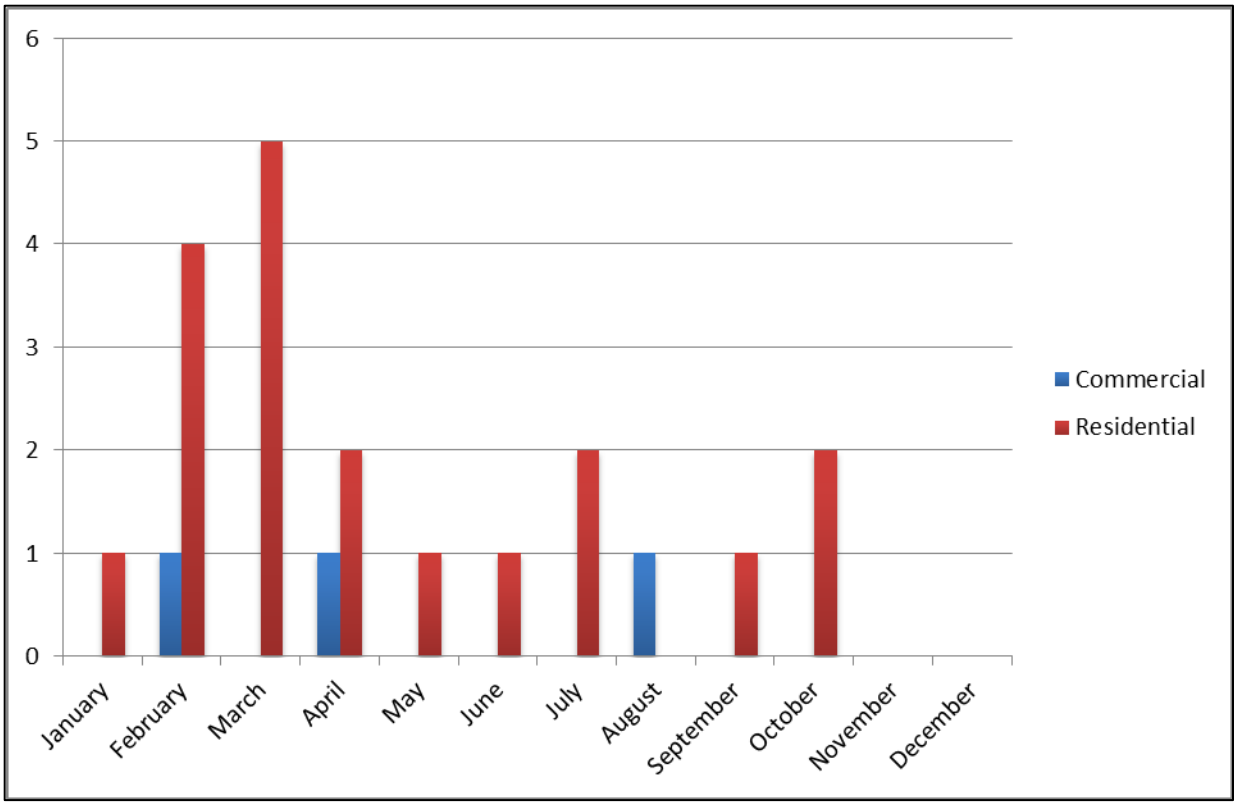


D. *The number and percentage of all complaints resolved by taking any of the following actions: (1) taking the action the customer requested; (2) taking an action the customer and the utility agree is an acceptable compromise, (3) providing the customer with information that demonstrates that the situation complained of is not reasonably within the control of the utility; or (4) refusing to take the action the customer requested.*



E. *The number of complaints forwarded to the utility by the Commission's Consumer Affairs Office for further investigation and action.*

Minnesota Power had 22 complaints (19 Residential/3 Commercial) forwarded to the utility by the Commission's Consumers Affairs Office for further investigation and action in 2016.



Feeder Maps Under 7826.0700 SAIFI – Storm Excluded

Safety, Reliability and Service Quality Standards Report

Attachment B

Detail A

Detail B

Detail C

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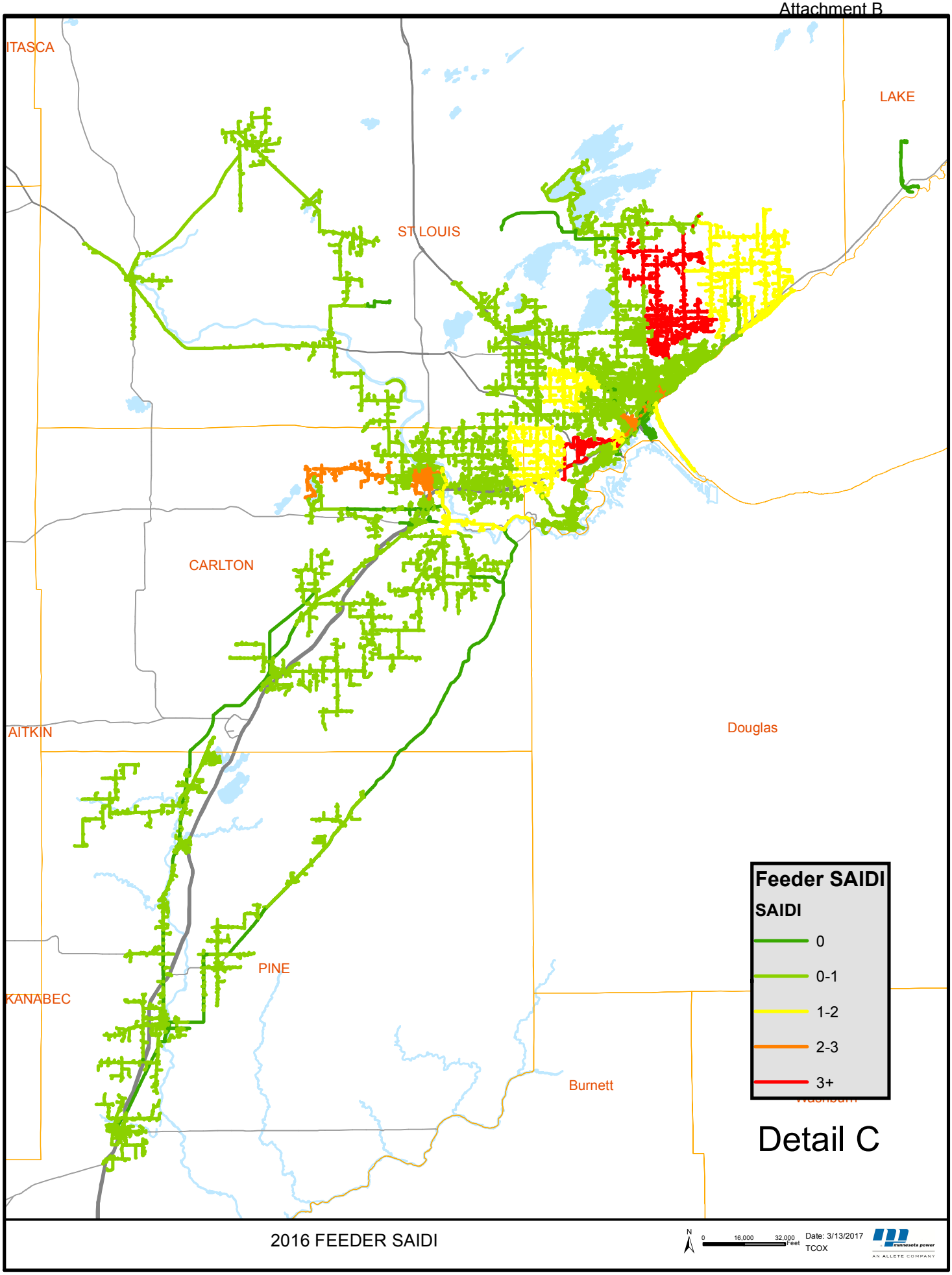
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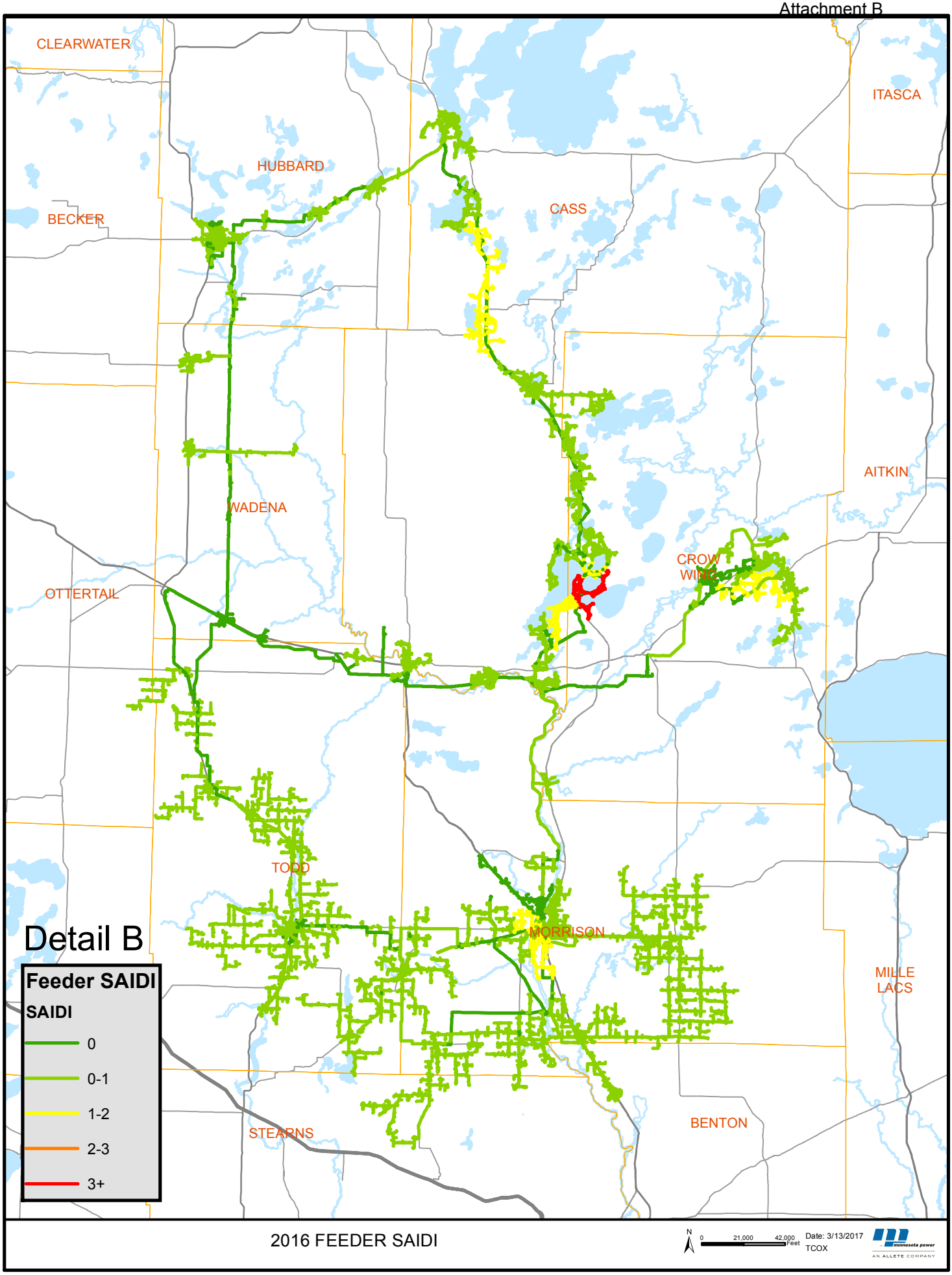
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Attachment B

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AN ALLETE COMPANY

Reports Filed Under 7826.0700

Safety, Reliability and Service Quality Standards Report

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: LSP-223

Date Out:	01/09/2016	Date In:	01/09/2016
Time Out:	21:42	Time In:	23:06

Duration: 84 minutes (1st partial restore)

Number of Customers Affected: 1126

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: West Duluth and Proctor

Major Customers: N/A

Cause: Three Phase Primary pulled out of its shoes on a dead end.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: GLL-1

Date Out:	01/11/2016	Date In:	01/11/2016
Time Out:	05:24	Time In:	07:02

Duration: 98 minutes (for GLL cast)

Number of Customers Affected: 1063

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Brainerd, East Gull Lake, Nisswa

Major Customers: N/A

Cause: Broken insulators on BAX-531-F primary.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout: FRR-275 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: FRR-275

Date Out:	1/25/16	Date In:	1/25/16
Time Out:	14:05	Time In:	15:19

Duration: 74 minutes

Number of Customers Affected: 866

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Duluth

Major Customers:

Cause: Tree being cut by contractor made contact with line.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout: FRR-276 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: FRR-276

Date Out:	1/25/16	Date In:	1/25/16
Time Out:	14:05	Time In:	15:19

Duration: 74 minutes

Number of Customers Affected: 559

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Duluth

Major Customers:

Cause: Tree being cut by contractor made contact with line.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: LSP-223

Date Out:	01/27/2016	Date In:	01/27/2016
Time Out:	17:24	Time In:	18:47

Duration: 83 minutes (1st restore)

Number of Customers Affected: 1126

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: West Duluth and Proctor

Major Customers: N/A

Cause: Blown cutouts at a capacitor bank possibly due to weather.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout: RIC-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: RIC-1

Date Out:	2/11/16	Date In:	2/11/16
Time Out:	02:15	Time In:	03:56

Duration: 101 minutes

Number of Customers Affected: 682

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Rice

Major Customers: na

Cause: Xcel Energy side of the 868 line had damage, causing the transmission line to lock out.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout: FRR-275 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: FRR-275

Date Out:	2/23/16	Date In:	02/23/16
Time Out:	08:39	Time In:	09:53

Duration: 74 minutes

Number of Customers Affected: 866

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Duluth

Major Customers:

Cause: squirrel in riser arrester

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout: FRR-276 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: FRR-276

Date Out:	2/23/16	Date In:	02/23/16
Time Out:	08:39	Time In:	10:14

Duration: 90 minutes

Number of Customers Affected: 559

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Duluth

Major Customers:

Cause: Squirrel in riser arrester

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout: VRG-303 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: VRG-303

Date Out:	2/28/16	Date In:	2/28/16
Time Out:	03:49	Time In:	08:16

Duration: 267 minutes

Number of Customers Affected: 1358

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Eveleth

Major Customers: N/A

Cause: Broken insulator at switch.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout: FIF-230 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: FIF-230

Date Out:	3/7/2016	Date In:	3/7/2016
Time Out:	08:44	Time In:	10:29

Duration: 105 Minutes (first restore)

Number of Customers Affected: 1199

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Duluth, MN

Major Customers:

Cause: Broken Insulators at Regulator

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout: TML-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: TML-1

Date Out:	3/15/16	Date In:	3/15/16
Time Out:	12:04	Time In:	13:17

Duration: 73 MIN

Number of Customers Affected: 513

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Ten Mile Lake

Major Customers:

Cause: Planned outage to repair insulator on 34kV line feeding stepdown.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: TMS-412 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: TMS-412

Date Out:	3/15/16	Date In:	3/15/16
Time Out:	10:09	Time In:	11:11

Duration: 62 MINUTES

Number of Customers Affected: 561

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Thomson, Esko

Major Customers:

Cause: Tree on primary.

Follow-Up: REVISED.

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout: HNS-229 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: HNS-229

Date Out:	3-16-16	Date In:	3-16-16
Time Out:	8:08	Time In:	8:53

Duration: 45 minutes

Number of Customers Affected: 814

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Duluth, Hermantown

Major Customers:

Cause: downed conductor.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout: INF-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: INF-1

Date Out:	3/17/16	Date In:	3/17/16
Time Out:	02:58	Time In:	09:39

Duration: 401 minutes

Number of Customers Affected: 1130

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: International Falls, Ranier

Major Customers:

Cause: Weather/Ice and Trees tore down 5 Spans of wire.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout:NIN-246 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: NIN-246

Date Out:	3-19-16	Date In:	3-19-16
Time Out:	10:06	Time In:	12:15

Duration: 129 Min.

Number of Customers Affected: 603

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Duluth

Major Customers:

Cause: Fire on riser pole on St. Luke's Hosp 34KV line, tripped several substations and feeders. Correction: Updated cause was bad vac pack switch gear at the 263-226 tie switch at the US Bank.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout:NIN-248 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: NIN-248

Date Out:	3-19-16	Date In:	3-19-16
Time Out:	10:07	Time In:	12:09

Duration: 122 Min.

Number of Customers Affected: 1893

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Duluth, MN

Major Customers:

Cause: Fire on riser pole on St. Luke's Hosp 34KV line, tripped several substations and feeders. Correction: Updated cause was bad vac pack switch gear at the 263-226 tie switch at the US Bank.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout SLS-1 Outage Notice: First Notice

Distribution System Status Outage Notification

Feeder/Bus #: SLS-1

Date Out:	3/22/16	Date In:	3/22/16
Time Out:	10:57	Time In:	12:00

Duration: 63 minutes

Number of Customers Affected: 298 (single phase affected)

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Menahga

Major Customers:

Cause: Squirrel on the riser pole

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: 32 Line Lockout Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: TWN 2

Date Out:	3/28/16	Date In:	3/28/16
Time Out:	12:33	Time In:	13:55

Duration: 82 minutes

Number of Customers Affected: 555

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Tower, Babbitt, and Soudan

Major Customers: MN DNR, J&P Automotive, Pike Bay Lodge &Resort, Frandsen Band & Trust, Embarrass Vermillion.

Cause: Cause Unknown at this time.

Follow-Up: Update: Suspected contact by contractor on parent feed 32-Line (Tower-Winton)

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout: LFM-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: LFM-1

Date Out:	4/12/16	Date In:	4/12/16
Time Out:	02:00	Time In:	03:30

Duration: 90 MIN

Number of Customers Affected: 816

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Little Falls/ Randall

Major Customers:

Cause: Planned outage to install jumpers and sync with other substations.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: GLL-1

Date Out:	04/14/2016	Date In:	4/14/16
Time Out:	16:08	Time In:	19:11

Duration: 183 minutes

Number of Customers Affected: 1063

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Brainerd, East Gull Lake, Nisswa

Major Customers: N/A

Cause: Unknown, crew found no visible cause though high winds may have caused a limb to fall on the lines, then fall clear of the lines before crews could discover it.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout: ZMP-337 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: ZMP-337

Date Out:	5/3/16	Date In:	5/3/16
Time Out:	13:38	Time In:	14:45

Duration: 67 minutes

Number of Customers Affected: 618 (1st partial restore)

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: DEER RIVER

Major Customers:

Cause: Unknown

Follow-Up: Switching restored a majority of the customers.

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout: RGV-251 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: RGV- 251

Date Out:	5/23/16	Date In:	5/23/16
Time Out:	00:08	Time In:	01:18

Duration: 81 minutres (1st partial restore)

Number of Customers Affected: 881

For information about this alert, contact: Jill Feriancek
218-355-2797

For follow-up information or questions, contact: jFeriancek@mnpower.com

Communities Affected: Duluth

Major Customers: Walgreen's Drug Store

Cause: Bad Underground

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout: CLQ-406 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: CLQ-406

Date Out:	6-8-16	Date In:	6-8-16
Time Out:	19:04	Time In:	20:14

Duration: 70 minutes (1st partial response)

Number of Customers Affected: 2950

For information about this alert, contact: Jill Feriancek
218-355-2797

For follow-up information or questions, contact: jFeriancek@mnpower.com

Communities Affected: Cloquet

Major Customers:

Cause: Vehicle Accident with Broken 3-Phase Pole

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: GES-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: GES-1

Date Out:	6/17/16	Date In:	6/17/16
Time Out:	15:56	Time In:	17:08

Duration: 72 minutes

Number of Customers Affected: 591

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: GREY EAGLE

Major Customers: CITY OF GREY EAGLE

Cause: TREE ON FEEDER DUE TO WEATHER

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout: BAX-531 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: Stepdown

Date Out:	6/17/16	Date In:	6/17/16
Time Out:	1513	Time In:	1703

Duration: GLL Sub in at 55 minutres

Number of Customers Affected: 1876

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: BRAINERD

Major Customers: Key Account Customers (has an asterisk next to name in OMS Trouble Calls for Order windown.

Cause: CURRENTLY UNKNOWN

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: CLQ-409 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: CLQ-409

Date Out:	6/19/16	Date In:	6/19/16
Time Out:	19:34	Time In:	20:52

Duration: 78 MINUTES

Number of Customers Affected: 2220

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: CLOQUET

Major Customers:

Cause: WEATHER

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: DER-2 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: DER-2

Date Out:	06/19/16	Date In:	06/19/16
Time Out:	19:01	Time In:	23:24

Duration: 263 MINUTES

Number of Customers Affected: 657

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: DEERWOOD

Major Customers:

Cause: WEATHER

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: DHY-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: DHY-1

Date Out:	06/19/16	Date In:	06/19/16
Time Out:	19:01	Time In:	23:24

Duration: 263 MINUTES

Number of Customers Affected: 570

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: DEERWOOD

Major Customers:

Cause: WEATHER

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: BAC-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: BAC-1

Date Out:	6/21/16	Date In:	6/21/16
Time Out:	01:29	Time In:	08:45

Duration: 436 MINUTES

Number of Customers Affected: 637

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: BACKUS

Major Customers:

Cause: WEATHER; STORMS IN AREA.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: LSPI-223 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: LSPI-223

Date Out:	6/25/16	Date In:	6/25/16
Time Out:	16:28	Time In:	19:42

Duration: 194 MINUTES

Number of Customers Affected: 1126

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: DULUTH.

Major Customers:

Cause: WEATHER; STORMS IN AREA.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: NAS-319 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: NAS-319

Date Out:	6/25/16	Date In:	6/25/16
Time Out:	15:58	Time In:	17:22

Duration: 84 MINUTES

Number of Customers Affected: 1126

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: NASHWAUK

Major Customers:

Cause: WEATHER

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: MDY-277 Lockout

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: MDY-277

Date Out:	7/1/16	Date In:	7/1/16
Time Out:	11:47	Time In:	13:13

Duration: 86 minutes (1st partial restore)

Number of Customers Affected: 992

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Esko, Proctor, Hermantown

Major Customers:

Cause: Possible section of bad primary UG

Follow-Up: Partial restore at 1313 from 200-277 tie to N Cloquet Rd 88.

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: FBG-269

Date Out:	07/05/2016	Date In:	07/05/2016
Time Out:	19:20	Time In:	20:27

Duration: 67 minutes

Number of Customers Affected: 574

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Island Lake area of Duluth

Major Customers: N/A

Cause: 16 Line locked out.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: NAS-319

Date Out:	07/05/2016	Date In:	07/06/2016
Time Out:	6:14 PM	Time In:	12:21 AM

Duration: 6hrs, 7min

Number of Customers Affected: 1126

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Coleraine

Major Customers: N/A

Cause: Lightning appears to have tripped the breaker at the Sub

Follow-Up: Just midfeed recloser; not entire feeder.

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: ZMP-337

Date Out:	07/05/2016	Date In:	07/05/2016
Time Out:	17:41	Time In:	19:43

Duration: 123 minutes (1st restore)

Number of Customers Affected: 618

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Deer River

Major Customers: N/A

Cause: Multiple Lines down locked out the breaker at the sub due to weather.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: GLL-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: GLL-1

Date Out:	7/10/16	Date In:	7/10/16
Time Out:	06:05	Time In:	07:49

Duration: 104 minutes

Number of Customers Affected: 1063

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Brainerd, East Gull Lake, Nisswa

Major Customers:

Cause: Weather

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: GLL-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: GLL-1

Date Out:	7/10/16	Date In:	7/10/16
Time Out:	6:07	Time In:	7:53

Duration: 146 minutes

Number of Customers Affected: 1063

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Brainerd, East Gull Lake, Nisswa

Major Customers:

Cause: Unknown cause per crew

Follow-Up: They will continue to patrol line

Form No. 6102 Rev. 7/10

Subject: BAC-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: BAC-1

Date Out:	07/21/16	Date In:	07/21/16
Time Out:	01:29	Time In:	08:45

Duration: 436

Number of Customers Affected: 637

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: BACKUS

Major Customers:

Cause: WEATHER; STORMS IN AREA.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: CLQ-406 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: CLQ-406

Date Out:	07/21/16	Date In:	07/21/16
Time Out:	03:21	Time In:	06:24

Duration: 183 MINUTES

Number of Customers Affected: 3207

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: CLOQUET

Major Customers:

Cause: WEATHER; STORMS IN AREA.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: CLQ-409 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: CLQ-409

Date Out:	07/21/16	Date In:	07/21/16
Time Out:	03:24	Time In:	05:56

Duration: 152 MINUTES

Number of Customers Affected: 2220

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: CLOQUET

Major Customers:

Cause: WEATHER; STORMS IN AREA.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout COL-240 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: COL-240

Date Out:	7/21/16	Date In:	7/26/16
Time Out:	03:32	Time In:	07:47

Duration: 7455 minutes

Number of Customers Affected: 3405

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Duluth

Major Customers:

Cause: Weather

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout COL-241 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: COL-241

Date Out:	7/21/16	Date In:	7/24/16
Time Out:	03:35	Time In:	06:50

Duration: 4515 minutes

Number of Customers Affected: 1800

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Duluth

Major Customers:

Cause: Weather

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout COL-242 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: COL-242

Date Out:	7/21/16	Date In:	7/23/16
Time Out:	03:36	Time In:	08:59

Duration: 3203 minutes

Number of Customers Affected: 2568

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Duluth

Major Customers:

Cause: Weather

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout COL-244 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: COL-244

Date Out:	7/21/16	Date In:	7/23/16
Time Out:	03:39	Time In:	06:17

Duration: 3038 minutes

Number of Customers Affected: 2223

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Duluth

Major Customers:

Cause: Weather

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: DEN-6431 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: DEN-6431

Date Out:	07/21/16	Date In:	07/21/16
Time Out:	03:20	Time In:	17:00

Duration: 820 MINUTES

Number of Customers Affected: 1139

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Sandstone

Major Customers:

Cause: WEATHER; STORMS IN AREA.

Follow-Up: Enter information for any follow up

Form No. 6102 Rev. 7/10

Subject: DER-2 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: DER-2

Date Out:	7/21/16	Date In:	7/21/16
Time Out:	02:08	Time In:	05:38

Duration: 210 minutes

Number of Customers Affected: 657

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: DEERWOOD

Major Customers:

Cause: WEATHER; STORMS IN AREA.

Follow-Up: Enter information for any follow up

Form No. 6102 Rev. 7/10

Subject: DHY-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: DHY-1

Date Out:	7/21/16	Date In:	7/21/16
Time Out:	02:08	Time In:	05:38

Duration: 210 minutes

Number of Customers Affected: 570

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: DEERWOOD

Major Customers:

Cause: WEATHER; STORMS IN AREA.

Follow-Up: Enter information for any follow up

Form No. 6102 Rev. 7/10

Subject: FBG-269 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: FBG-269

Date Out:	07/21/16	Date In:	07/21/16
Time Out:	03:17	Time In:	07:16

Duration: 239 MINUTES

Number of Customers Affected: 574

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: FREDENBERG, DULUTH

Major Customers:

Cause: WEATHER; STORMS IN AREA.

Follow-Up: Enter information for any follow up

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout FCS-214 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: FCS-214

Date Out:	7/21/16	Date In:	7/21/16
Time Out:	12:42	Time In:	19:30

Duration: 408 minutes

Number of Customers Affected: 1388

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Duluth

Major Customers:

Cause: Weather

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: FCS-214 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: FCS-214

Date Out:	07/21/16	Date In:	07/21/16
Time Out:	03:28	Time In:	10:25

Duration: 417 MINUTES

Number of Customers Affected: 1388

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: HERMANTOWN

Major Customers:

Cause: WEATHER; STORMS IN AREA.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout FIF-220 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: FIF-220

Date Out:	7/21/16	Date In:	7/24/16
Time Out:	03:31	Time In:	08:52

Duration: 4641 minutes

Number of Customers Affected: 2915

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Duluth

Major Customers:

Cause: Weather

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout FRR-275 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: FRR-275

Date Out:	7/21/16	Date In:	7/23/16
Time Out:	06:28	Time In:	17:01

Duration: 3513 minutes

Number of Customers Affected: 866

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Duluth

Major Customers:

Cause: Weather

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout FRR-276 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: FRR-276

Date Out:	7/21/16	Date In:	7/21/16
Time Out:	03:40	Time In:	15:23

Duration: 703 minutes

Number of Customers Affected: 559

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Duluth

Major Customers:

Cause: Tree / Weather

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: GLL-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: GLL-1

Date Out:	07/21/16	Date In:	07/21/16
Time Out:	01:52	Time In:	04:41

Duration: 169 minutes

Number of Customers Affected: 1063

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Nisswa

Major Customers:

Cause: Weather: Storms in area.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: HCS-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: HCS-1

Date Out:	7/21/16	Date In:	7/21/16
Time Out:	20:41	Time In:	23:59

Duration: 198 MINUTES

Number of Customers Affected: 631

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: HACKENSACK

Major Customers:

Cause: WEATHER; STORMS IN AREA.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: HNS-229 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: HNS-229

Date Out:	07/21/16	Date In:	07/23/16
Time Out:	03:28	Time In:	04:50

Duration: 2962 MINUTES

Number of Customers Affected: 814

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: DULUTH

Major Customers:

Cause: WEATHER; STORMS IN AREA.

Follow-Up: Enter information for any follow up

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout HNS-247 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: HNS-247

Date Out:	7/21/16	Date In:	7/23/16
Time Out:	03:32	Time In:	05:36

Duration: 3004 minutes

Number of Customers Affected: 657

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Duluth

Major Customers:

Cause: Weather

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout MAH-6411 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: MAH-6411

Date Out:	7/21/16	Date In:	7/21/16
Time Out:	06:40	Time In:	08:40

Duration: 120 minutes

Number of Customers Affected: 536

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Cloquet

Major Customers:

Cause: Weather / storms

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: NAS-319 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: NAS-319

Date Out:	07/21/16	Date In:	07/21/16
Time Out:	02:37	Time In:	05:03

Duration: 146 MINUTES

Number of Customers Affected: 1126

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: NASHWAUK

Major Customers:

Cause: WEATHER; STORMS IN AREA.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: NPS-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: NPS-1

Date Out:	7/21/16	Date In:	7/21/16
Time Out:	01:46	Time In:	05:23

Duration: 217 MINUTES

Number of Customers Affected: 551

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: NISSWA

Major Customers:

Cause: WEATHER; STORMS IN AREA.

Follow-Up: Enter information for any follow up

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout RGV-251 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: RGV-251

Date Out:	7/21/16	Date In:	7/23/16
Time Out:	03:34	Time In:	11:46

Duration: 3372 minutes

Number of Customers Affected: 881

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Duluth

Major Customers:

Cause: Weather

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout RGV-252 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: RGV-252

Date Out:	7/21/16	Date In:	7/23/16
Time Out:	03:34	Time In:	23:53

Duration: 4099 minutes

Number of Customers Affected: 2826

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Duluth

Major Customers:

Cause: Weather

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout RGV-253 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: RGV-253

Date Out:	7/21/16	Date In:	7/25/16
Time Out:	03:29	Time In:	05:55

Duration: 5906 minutes

Number of Customers Affected: 1089

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Duluth

Major Customers:

Cause: Weather

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout RGV-254 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: RGV-254

Date Out:	7/21/16	Date In:	7/22/16
Time Out:	03:34	Time In:	19:00

Duration: 2366 minutes

Number of Customers Affected: 2212

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Duluth

Major Customers:

Cause: Weather

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout SLA-250 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: SLA-250

Date Out:	7/21/16	Date In:	7/22/16
Time Out:	03:29	Time In:	21:35

Duration: 2646 minutes

Number of Customers Affected: 2519

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Duluth

Major Customers:

Cause: Weather

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: SVR-215 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: SVR-215

Date Out:	07/21/16	Date In:	07/22/16
Time Out:	03:21	Time In:	15:24

Duration: 2163 MINUTES

Number of Customers Affected: 644

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: HERMANTOWN

Major Customers:

Cause: WEATHER; STORMS IN AREA.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: TML-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: TML-1

Date Out:	07/21/16	Date In:	07/21/16
Time Out:	01:25	Time In:	04:43

Duration: 198 MINUTES

Number of Customers Affected: 513

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: PINE RIVER

Major Customers:

Cause: WEATHER; STORMS IN AREA.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: TWN-2 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: TWN-2

Date Out:	07/21/16	Date In:	07/21/16
Time Out:	02:39	Time In:	05:46

Duration: 187 MINUTES

Number of Customers Affected: 555

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: TOWER, SOUDAN

Major Customers:

Cause: WEATHER; STORMS IN AREA.

Follow-Up: Enter information for any follow up

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout WRN-411 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: WRN-411

Date Out:	7/21/16	Date In:	7/21/16
Time Out:	04:27	Time In:	08:34

Duration: 257 minutes

Number of Customers Affected: 1069

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Wrenshall

Major Customers:

Cause: Weather/storms

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout BAB-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: BAB-1

Date Out:	7/26/16	Date In:	7/26/16
Time Out:	04:47	Time In:	13:20

Duration: 513 minutes

Number of Customers Affected: 765

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Babbitt

Major Customers:

Cause: Tree / Weather

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: GLL-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: GLL-1

Date Out:	8/4/16	Date In:	8/4/16
Time Out:	03:06	Time In:	06:09

Duration: 183 minutes

Number of Customers Affected: 1063

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Pine River

Major Customers:

Cause: Weather

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout: MAH-6411 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: MAH-6411

Date Out:	8/4/16	Date In:	8/4/16
Time Out:	04:19	Time In:	06:32

Duration: 133 minutes

Number of Customers Affected: 536

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Cloquet

Major Customers:

Cause: Weather

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout SEB-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: SEB-1

Date Out:	8/4/16	Date In:	8/4/16
Time Out:	02:17	Time In:	04:44

Duration: 147 minutes

Number of Customers Affected: 629

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Park Rapids

Major Customers:

Cause: Weather

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout: TMS-412 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: TMS-412

Date Out:	8/4/16	Date In:	8/4/16
Time Out:	04:19	Time In:	06:04

Duration: 105 minutes

Number of Customers Affected: 561

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Cloquet

Major Customers:

Cause: Weather

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout SEB-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: SEB-1

Date Out:	8/4/16	Date In:	8/4/16
Time Out:	02:17	Time In:	04:44

Duration: 147 minutes

Number of Customers Affected: 629

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Park Rapids

Major Customers:

Cause: Weather

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout SLS-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: SLS-1

Date Out:	8/4/16	Date In:	8/4/16
Time Out:	02:17	Time In:	04:00

Duration: 103 minutes

Number of Customers Affected: 866

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Park Rapids

Major Customers:

Cause: Weather

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: SLS-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: SLS-1

Date Out:	8/4/16	Date In:	8/4/16
Time Out:	02:17	Time In:	04:00

Duration: 103 minutes

Number of Customers Affected: 731

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Park Rapids

Major Customers:

Cause: Weather

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout: NAS-319 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: NAS-319

Date Out:	8/6/16	Date In:	8/6/16
Time Out:	18:28	Time In:	21:11

Duration: 163 minutes

Number of Customers Affected: 1126

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Coleraine

Major Customers:

Cause: Bird

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: DHY-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: DHY-1

Date Out:	8/10/16	Date In:	8/10/16
Time Out:	7:30	Time In:	8:33

Duration: 69 minutes

Number of Customers Affected: Not whole feeder

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Deerwood, Ironton

Major Customers:

Cause: Bad dead-end insulator

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: BAC-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: BAC-1

Date Out:	8/20/16	Date In:	8/20/16
Time Out:	11:48	Time In:	13:17

Duration: 89 minutes

Number of Customers Affected: 598

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Backus

Major Customers:

Cause: Storms in area

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Stepdown Chisholm 1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: Chisholm 1 Stepdown

Date Out:	8/27/16	Date In:	8/27/16
Time Out:	18:01	Time In:	21:11

Duration: 190

Number of Customers Affected: 925

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Chisholm

Major Customers:

Cause: Lightning damaged pole top & transformer on parent feeder HIB-310.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Stepdown Chisholm 2 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: Chisholm 2 Stepdown

Date Out:	8/27/16	Date In:	8/27/16
Time Out:	18:01	Time In:	21:11

Duration: 190

Number of Customers Affected: 537

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Chisholm

Major Customers:

Cause: Lightning damaged pole top & transformer on parent feeder HIB-310.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Stepdown Chisholm 3 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: Chisholm 3 Stepdown

Date Out:	8/27/16	Date In:	8/27/16
Time Out:	18:01	Time In:	21:11

Duration: 190

Number of Customers Affected: 935

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Chisholm

Major Customers:

Cause: Lightning damaged pole top & transformer on parent feeder HIB-310.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: HIB-310 Feeder Lockout

Outage Notice: First Notice

Distribution System Status Outage Notification

Feeder/Bus #: HIB-310

Date Out:	8/27/16	Date In:	8/27/16
Time Out:	18:03	Time In:	21:11

Duration: 3 Hrs 8 Min

Number of Customers Affected: 3,081

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Chisholm.

Major Customers:

Cause: Lightning damage pole top and transformer.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout: ESS-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: ESS-1

Date Out:	8/29/16	Date In:	8/29/16
Time Out:	02:00	Time In:	03:52

Duration: 112 minutes

Number of Customers Affected: 1001

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Eveleth

Major Customers:

Cause: Weather

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout EVE-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: EVE-1

Date Out:	8/29/16	Date In:	8/29/16
Time Out:	02:00	Time In:	03:52

Duration: 112 minutes

Number of Customers Affected: 1001

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Eveleth

Major Customers:

Cause: Lightning

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: LSP-223 Feeder Lockout Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: LSP-223

Date Out:	8/29/16	Date In:	8/29/16
Time Out:	20:53	Time In:	22:11

Duration: 78 minutes

Number of Customers Affected: 1,126

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Duluth

Major Customers:

Cause: Weather- Lightning

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: VRG-303 Feeder Lockout

Outage Notice: First Notice

Distribution System Status Outage Notification

Feeder/Bus #: VRG-303

Date Out:	8/29/16	Date In:	8/29/16
Time Out:	02:00	Time In:	03:52

Duration: 112 minutres

Number of Customers Affected: 1,358

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Eveleth

Major Customers:

Cause: Lightning

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: VRG-311 Feeder Lockout

Outage Notice: First Notice

Distribution System Status Outage Notification

Feeder/Bus #: VRG-311

Date Out:	8/29/16	Date In:	8/29/16
Time Out:	02:00	Time In:	03:52

Duration: 112 minutes

Number of Customers Affected: 520

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Eveleth

Major Customers:

Cause: Lightning

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout: HCS-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: HCS-1

Date Out:	9/5/16	Date In:	9/5/16
Time Out:	06:05	Time In:	07:47

Duration: 102 minutes

Number of Customers Affected: 631

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Hackensack

Major Customers:

Cause: Weather

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout: TML-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: TML-1

Date Out:	9/5/16	Date In:	9/5/16
Time Out:	06:05	Time In:	07:47

Duration: 102 minutes

Number of Customers Affected: 513

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Pine River

Major Customers:

Cause: Weather

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout: LGW-334 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: LGW-334

Date Out:	9/6/16	Date In:	9/7/16
Time Out:	12:34	Time In:	00:27

Duration: 713 minutes

Number of Customers Affected: 615

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Coleraine

Major Customers:

Cause: Wind

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: FRR-276

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: FRR-276

Date Out:	11/17/16	Date In:	11/17/16
Time Out:	21:38	Time In:	23:52

Duration: 134 minutes

Number of Customers Affected: 559

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Duluth

Major Customers: Apostolic Lutheran Church

Cause: Suspected relay issue at the FRR-276 sub.

Follow-Up: FRR-276 & FRR-275 tied together until relay issue can be addressed 11/18/16.

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout BAC-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: BAC-1

Date Out:	11/18/16	Date In:	11/18/16
Time Out:	02:25	Time In:	06:12

Duration: 227 minutes

Number of Customers Affected: 598

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Backus

Major Customers:

Cause: Suspected fault in swamp near BLS-516 sub

Follow-Up: Crews will assess swamp area during daylight areas.

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout:BAC-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: BAC-1

Date Out:	11/18/16	Date In:	11/18/16
Time Out:	10:12	Time In:	14:42

Duration: 270

Number of Customers Affected: 637

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Backus

Major Customers:

Cause: Ice/snow

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout:GLL-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: GLL-1

Date Out:	11/18/16	Date In:	11/18/16
Time Out:	12:47	Time In:	14:21

Duration: 94 minutes

Number of Customers Affected: 1063

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Pine River

Major Customers:

Cause: Ice/snow

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout: HCS-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: HCS-1

Date Out:	11/18/16	Date In:	11/18/16
Time Out:	12:08	Time In:	13:33

Duration: 85

Number of Customers Affected: 631

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Hackensack

Major Customers:

Cause: Weather / storms

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout:MOT-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: MOT-1

Date Out:	11/18/16	Date In:	11/18/16
Time Out:	07:43	Time In:	10:11

Duration: 148

Number of Customers Affected: 526

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Motley

Major Customers:

Cause: Ice/snow

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout:ROY-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: ROY-1

Date Out:	11/18/16	Date In:	11/18/16
Time Out:	10:24	Time In:	19:55

Duration: 571

Number of Customers Affected: 652

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Royalton

Major Customers:

Cause: Ice/snow

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout: TML-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: TML-1

Date Out:	11/18/16	Date In:	11/18/16
Time Out:	12:08	Time In:	13:57

Duration: 109

Number of Customers Affected: 513

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Ten Mile Lake

Major Customers:

Cause: Weather / storms

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout VRG-303 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: VRG-303

Date Out:	11/18/16	Date In:	11/19/16
Time Out:	20:14	Time In:	1:21

Duration: 607 minutes

Number of Customers Affected: Not entire feeder affected

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Eveleth

Major Customers:

Cause: Trees tore lines down. Partial restoration at 22:30

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout: PIL-1 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: PIL-1

Date Out:	11/19/16	Date In:	11/19/16
Time Out:	02:06	Time In:	11:15

Duration: 549

Number of Customers Affected: 576

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Pillager

Major Customers:

Cause: Weather / storms

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: TMS-412

Date Out:	12/25/2016	Date In:	12/25/2016
Time Out:	8:39PM	Time In:	10:36PM

Duration: 1hr 57min

Number of Customers Affected: 561

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Carlton

Major Customers: N/A

Cause: Tree came down on lines due to Ice/Wind

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: NPS-1

Date Out:	12/26/2016	Date In:	12/26/2016
Time Out:	3:41AM	Time In:	5:07AM

Duration: 1hr 26min

Number of Customers Affected: 551

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Nisswa, Pequot Lakes

Major Customers: N/A

Cause: Tree Branch came down across the three phase.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: TMS-412

Date Out:	12/26/2016	Date In:	12/26/2016
Time Out:	3:41AM	Time In:	5:07AM

Duration: 1hr 26min

Number of Customers Affected: 551

For information about this alert, contact: Jill Feriancek
218-355-2797
jFeriancek@mnpower.com

For follow-up information or questions, contact: Jill Feriancek, OCC

Communities Affected: Nisswa, Pequot Lakes

Major Customers: N/A

Cause: Tree Branch came down across the three phase.

Follow-Up:

STATE OF MINNESOTA	)	AFFIDAVIT OF SERVICE VIA
	) ss	ELECTRONIC FILING
COUNTY OF ST. LOUIS	)	

SUSAN ROMANS of the City of Duluth, County of St. Louis, State of Minnesota, says that on the **31st** day of **March, 2017**, she served Minnesota Power's Annual Safety, Reliability and Service Quality Report on the Minnesota Public Utilities Commission ("MPUC") and Minnesota Department of Commerce ("DoC") via electronic filing. Parties on Minnesota Power's SRSQ Service List were served as requested. Any paper copies were sent via U.S. Mail.

Susan Romans

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Julia	Anderson	Julia.Anderson@ag.state.mn.us	Office of the Attorney General-DOC	1800 BRM Tower 445 Minnesota St St. Paul, MN 551012134	Electronic Service	No	GEN_SL_Minnesota Power_MP's SRSQ Serv Lst
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 500 Saint Paul, MN 551012198	Electronic Service	No	GEN_SL_Minnesota Power_MP's SRSQ Serv Lst
Burl W.	Haar	burl.haar@state.mn.us	Public Utilities Commission	Suite 350 121 7th Place East St. Paul, MN 551012147	Electronic Service	No	GEN_SL_Minnesota Power_MP's SRSQ Serv Lst
Allen	Krug	allen.krug@xcelenergy.com	Xcel Energy	414 Nicollet Mall-7th fl Minneapolis, MN 55401	Electronic Service	No	GEN_SL_Minnesota Power_MP's SRSQ Serv Lst
Douglas	Larson	dlarson@dakotaelectric.com	Dakota Electric Association	4300 220th St W Farmington, MN 55024	Electronic Service	No	GEN_SL_Minnesota Power_MP's SRSQ Serv Lst
John	Lindell	agorud.ecf@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012130	Electronic Service	No	GEN_SL_Minnesota Power_MP's SRSQ Serv Lst
David	Moeller	dmoeller@allete.com	Minnesota Power	30 W Superior St Duluth, MN 558022093	Electronic Service	No	GEN_SL_Minnesota Power_MP's SRSQ Serv Lst
Ron	Spangler, Jr.	rlspangler@otpco.com	Otter Tail Power Company	215 So. Cascade St. PO Box 496 Fergus Falls, MN 565380496	Electronic Service	No	GEN_SL_Minnesota Power_MP's SRSQ Serv Lst
SaGonna	Thompson	Regulatory.Records@xcelenergy.com	Xcel Energy	414 Nicollet Mall FL 7 Minneapolis, MN 554011993	Electronic Service	No	GEN_SL_Minnesota Power_MP's SRSQ Serv Lst