minnesota power / 30 west superior street / duluth, minnesota 55802-2093 / 218-722-5642 / www.mnpower.com

Lori Hoyum
Policy Manager
218-355-3601
lhoyum@mnpower.com

March 31, 2016

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

RE: 2016 Safety, Reliability and Service Quality Standards Report Docket No. E015/M-16-___

Dear Mr. Wolf:

Minnesota Power hereby submits, via electronic filing, its 2016 Safety, Reliability and Service Quality Standards Report as required by Minn. Rules 7826 and the Commission's December 22, 2015 Order in Docket No. E015/M-15-323.

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

Yours truly,

Lori Hoyum

jmn
Attachments

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

Jodi Nash, of the City of Duluth, County of St. Louis, State of Minnesota, says that on the 31st day of March, 2016, she e-filed Minnesota Power's Annual Safety, Reliability and Service Quality Standards Report to the Minnesota Public Utilities Commission ("MPUC") and Minnesota Department of Commerce ("DoC") via electronic filing. The remaining parties on the attached service list were served as indicated.

Jodi Nash

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
Tiffany	Hughes	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
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
Daniel P	Wolf	dan.wolf@state.mn.us	Public Utilities Commission	121 7th Place East Suite 350 St. Paul, MN 551012147	Electronic Service	No	GEN_SL_Minnesota Power_MP's SRSQ Serv Lst

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

3/31/2016

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 and in compliance with the Commission's Order dated December 22, 2015 in Docket No. E015/M-15-323. 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 2015 storm excluded results for System Average Interruption Duration Index ("SAIDI") and System Average Interruption Frequency Index ("SAIFI") were 101.82 and 1.17. In 2014 the comparable results were 88.35 and .96. The 2015 reliability results surpass the 2015 SAIDI goal of 97.13, as well as the 2015 SAIFI goal of 1.01.

SAIDI (in minutes) **2015**	101.82
SAIDI (in minutes) 2014	88.35
SAIFI (# of outages) **2015**	1.17
SAIFI (# of outages) 2014	.96

Figure 1: 2015 SAIDI/SAIFI Results vs 2014 Results

The Company did not meet the goals for either SAIDI or SAIFI in 2015, mostly due to the massive storm event that took place in the Brainerd Lakes/Nisswa area in July of 2015. Despite the fact that most of the damage from the event was excluded from the SAIDI calculation,

[1] Attachment A

Minnesota Power's SAIDI and SAIFI were impacted by the trees weakened in the storm event that continued to fail and fall into major circuits in the area during subsequent high winds and minor storms in the weeks following the major storm event. This caused many non-storm excluded outages in the Brainerd Lakes/Nisswa area that contributed meaningfully to 2015 SAIDI and SAIFI results. Details of the event are included on Pages 14-15 of the Report.

One key takeaway is that Minnesota Power experienced an additional 271 trouble events in 2015 as compared to the prior year. A large portion of the increase can be explained by residual storm damage via fallen trees/branches and a handful of outages on bulk distribution lines related to the Brainerd lakes area storm. However, it is also important to note that although SAIDI and SAIFI experienced increases for 2015, CAIDI, the index that represents average restoration time, continued to decrease to the lowest level in a decade. This data highlights that, although the number of outages rose in 2015, the time required to restore customers continues to decline. Figure 2 "Major 2015 Outages by Type" on Page 2 outlines various examples of these key events contributing to the 2015 SAIFI/SAIDI results on Minnesota Power's system.

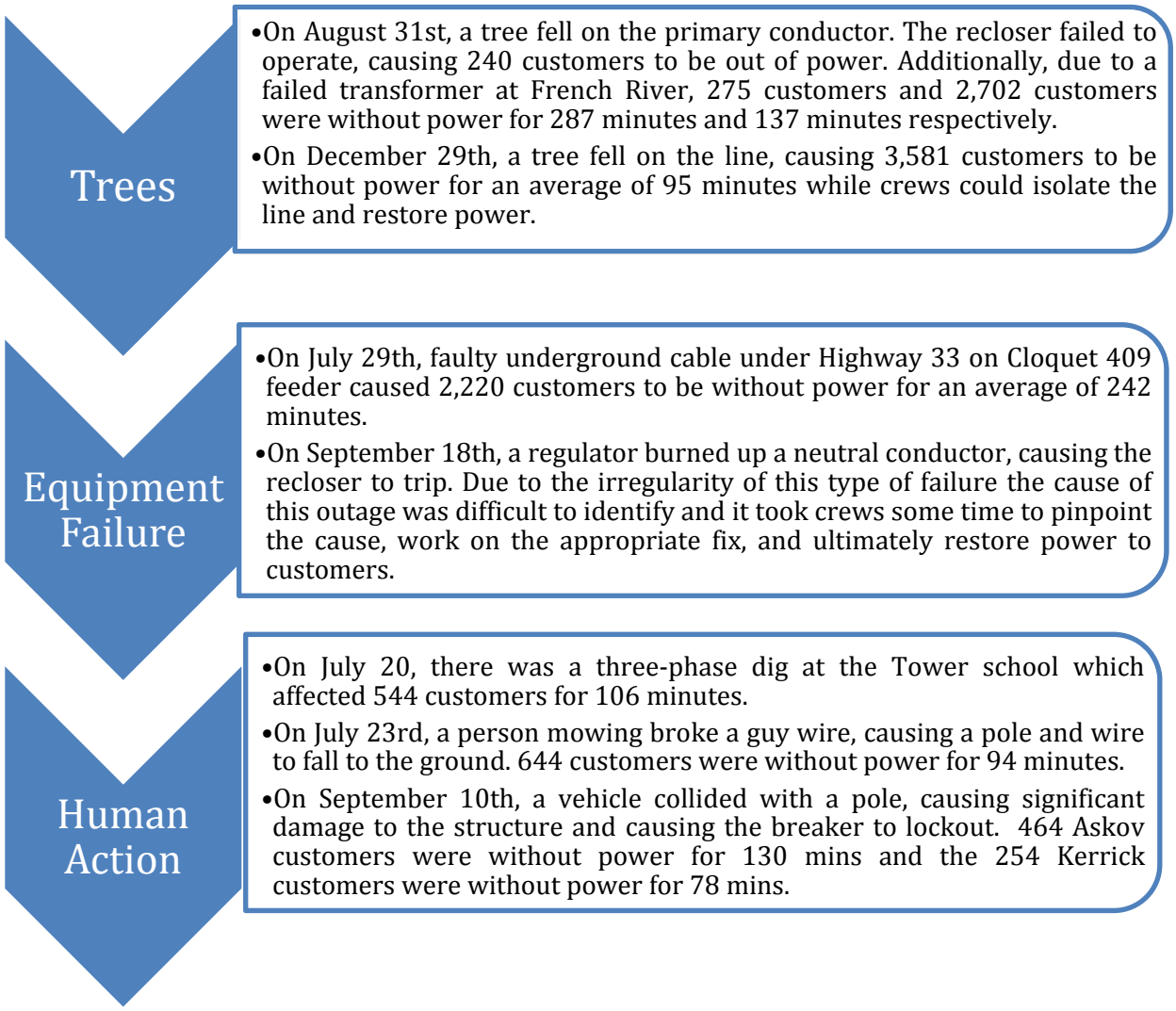


Figure 2: Major 2015 Outages by Type

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 3 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, capital recovery and efficiency. The investments are then prioritized based on a weighting system. Because it serves as a roadmap, the plan details are reviewed frequently and are modified, if necessary, to reflect the needs of customers, government agencies or other Minnesota Power stakeholders.

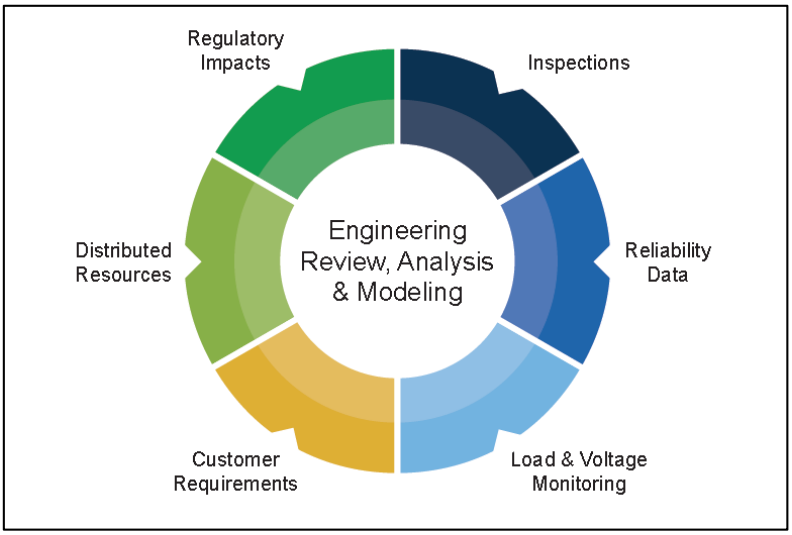


Figure 3: Distribution System Planning Components

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.

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 inspection reveals a physical loss of strength at the ground line, but an otherwise good pole, a metal brace called a pole stub is applied; or
3) If insects or decay within the pole are found and treatable, action is taken to stop further effects from the insect or decay; or
4) If the pole is beyond treatment or stubbing, it is replaced.

Besides 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 first 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 56 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:

Minnesota Power implemented an upgrade to its customer information system ("CIS") in May 2015. This system is Customer Care and Billing ("CC&B") from Oracle. The Company upgraded a vintage 1994 mainframe green screen system that served Minnesota Power and its customers well for twenty years. In preparation for the upgrade, the Company's credit and collections activity was temporarily curtailed from April 2015 through mid-June 2015. Credit and collections activity restarted in the new system mid-June 2015.

With the stabilization phase of the implementation complete, the Company is working in 2016 on enhancing customer options by implementing an online customer portal, which will give customers the option to not only communicate with Minnesota Power over the phone, but also online. The Company anticipates that the online portal will be available to a small group of our customers in 4th quarter 2016 and available to the entire customer base in first quarter 2017.

In 2012, Minnesota Power implemented a call monitoring initiative for its Customer Information Representatives ("Representatives"). This process uses actual calls as a training tool to provide Representatives feedback and assessment of call resolution effectiveness. This has been very beneficial in heightening call standards in Minnesota Power's call center.

In 2013, Minnesota Power implemented an after-call customer survey that helps to keep a daily pulse on customer satisfaction. Minnesota Power utilizes the after-call surveys to work with Representatives to ensure quality customer service and alignment with customer expectations. The call monitoring and the after-call customer survey have been great additions to continually improve Minnesota Power's customer service focus. In 2014, the Company continued to utilize the surveys as training tools and to track customer satisfaction.

In addition to the after-call survey, in 2014 the Company partnered with JD Power[1] in their Residential Customer Service Survey. JD Power is respected in the utility industry as a

[1] J.D. Power and Associates is an American-based global marketing information services firm. The firm conducts surveys of customer satisfaction, product quality, and buyer behavior for industries ranging from cars to marketing and advertising firms.

trusted source with its survey model. The Company has found their online tools very informative and helpful as it develops its customer experience initiative.

In 2015, Minnesota Power Customer Service continued to utilize call monitoring, after-call surveys and annual J.D. Power results to leverage the best service for its customers. The Company is leveraging these tools to determine the Voice of the Customer as its online customer service options are transitioned to the new online customer portal.

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[2] ('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 that 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[3] ("EMS") and the Geographic Information System[4] ("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:

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

[3]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".

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

- 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.

In 2014, Minnesota Power made an important change to its IVR main menu by creating an upfront menu choice for Western Union Speedpay. Western Union is the Company's phone and online payment vendor. Before this change, customers were required to navigate through several more IVR layers to get to this same payment option. By adding this option, customers have the ability to go directly to Western Union Speedpay by making one simple choice. This results in less time on the phone for customers and has decreased call center agent transfer interactions by 34 percent. In 2015 this enhancement continues to positively impact the Company's call volume.

Voltage Monitoring:

Data is collected and analyzed relating to feeder and substation peak loading. Five year forecasts are generated for each distribution substation and each feeder. This data help inform to identify trends and proactively justify capacity investments. More than 100 Sensus-Telemetric line voltage and outage monitors ("TVM") are located throughout the system. Sensus Distribution Automation TVM voltage monitors measure line voltage and provide real-time notifications of steady state values, outages and under or over voltage conditions to dispatchers and select Minnesota Power employees. Alarms and profiles help identify areas that may be experiencing momentary outages or have temporary voltage drop or rise outside of our 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-quarter 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 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 customer 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[2], 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. At the end of 2015 the Company had installed approximately 40,823 AMI meters. The current AMI population represents approximately 29 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	56%	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	15%	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	29%	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

[2] 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.[3] 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. 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.

Minnesota Power has offered its customers load management rates since 1983. Figure 5 on Pages 10-12 expands upon the Company's various customer load management offerings.

Name	Description	Number of Customers/Meters	Began
Residential Dual Fuel **Interruptible Electric Service**	Available to customers where a non-electric source of energy is available	7,378[4]	**1983**
Residential Controlled Access Electric Service	Available to customers for controlled energy storage or other loads. Energized period: 11 p.m. – 7 a.m.	311[5]	**1995**
Commercial/Industrial Dual Fuel Interruptible Electric Service	Available to customers where an alternative source of energy is available during periods of interruption	537[6]	**1983**
Commercial/Industrial Controlled Access Electric Service	Available to customers for controlled energy storage of loads. Energized period: 11 p.m. – 7 a.m.	58[7]	**1995**

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

[4] Source: 2014 FERC Form 1 page 304, line 4

[5] Source: 2014 FERC Form 1, page 304, line 6

[6] Source: 2014 FERC Form1, page 304, line 16

[7] Source: 2014 FERC Form 1, page 304, line 17

Rider for Large Power Interruptible Service	Available to customer taking 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.	0 (no longer open to additional customers)	**1993**
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[8]	**1995**
Rider for Released Energy	Available to Large Power customers who are willing to curtail energy at the request of the Company	3[9]	**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	0	**2001**

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

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

	to meet Company's firm energy requirements.		
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[10]	**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.	588[11]	**2014**

Figure 5: Time-of-Use and Load Management Rate 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

[10] 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

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

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.

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.

Minnesota Power continued PILC infrastructure upgrades in Downtown Duluth with additional investments of $2.05 million in 2015. The Company installed 2,400 lineal feet of new

ductwork, 26,000 feet of new cable, rebuilt one manhole and energized 7,200 feet of new cable in 2015. A 3,000 foot section of PILC was re-routed using new cable and conduit. Some cable previously installed in 2015 was not energized due to a pending 15th AVE West (Duluth, MN) substation reconstruction project slated to begin mid-2016. By late 2016 or early 2017 the Company will have energized most of the installed cable. The total PILC project spend from 2013-2015 is approximated at $8.09 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 Aid member 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.

Minnesota Power received Midwest Mutual Aid from many partners for the Brainerd Lakes/Nisswa[12] area storm of 2015. In July of 2015, the Brainerd Lakes/Nisswa area of Northern Minnesota suffered one of the most damaging storms to hit the area in many years. Straight line winds blew through the heavily wooded resort and cabin community, tossing trees, crushing cars and homes and downing power lines.

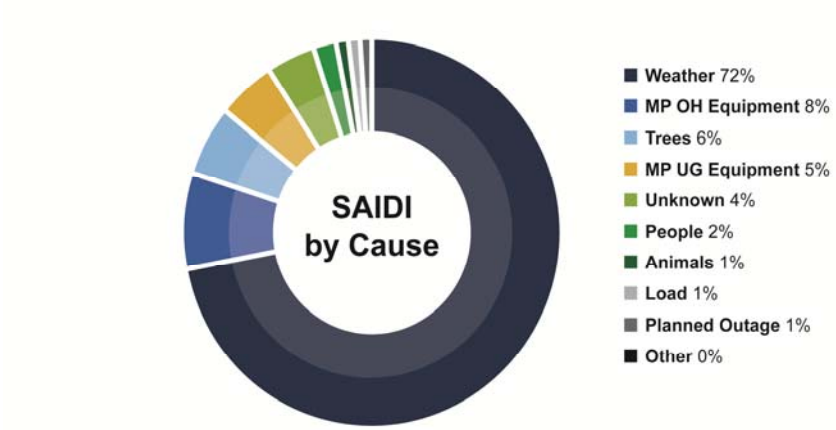
Power lines were twisted around massive white pine trees uprooted by the storm. More than 200 of the company's power poles were snapped by the straight line winds and 8,000 customers were left in the dark during the height of the outage. Mutual Aid was provided by Xcel Energy; Superior Water, Light and Power; Crow Wing Power; Brainerd Public Utilities; Northern Clearing; Lake States Tree Service; Bay West; Hooper Corporation; Otter Tail Power; M.J. Electric; Michels Corporation; Donovan Construction and Grand Rapids Public Utilities. Though crews worked tirelessly to restore power to the region, the event totaled seven days of outage event time. (See Figure 6 "Storm Response Timeline.") More than 300 poles and 110 transformers were eventually replaced and the Company experienced 97 environmental responses as a result of the storm. The estimated cost for the storm response currently sits at approximately $3.5 million.

[12] The Brainerd lakes area is a subset of resort communities in Northern, MN which encompasses Brainerd, Baxter, Nisswa and Pequot Lakes, among many other communities.

During a catastrophic and unprecedented event such as the Brainerd Lakes/Nisswa event of 2015, the benefits of the Midwest Mutual Aid program are greatly underscored. 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

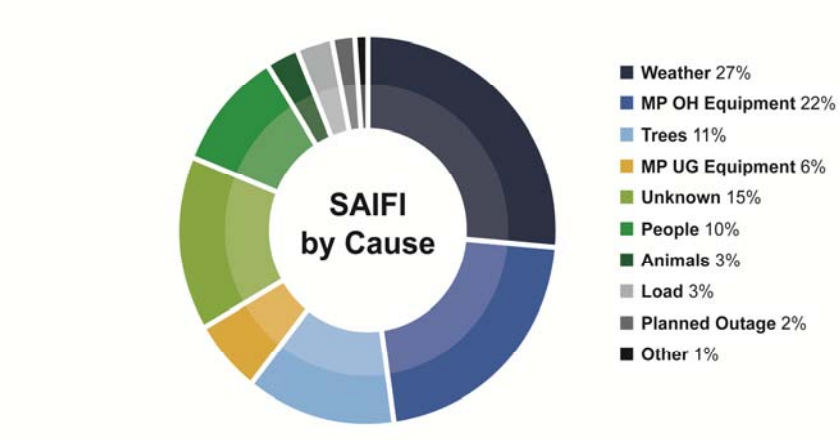
Minnesota Power has provided summary information to assist stakeholders in understanding the Company's overall system reliability and the main factors that affect reliability. The Company has prepared charts and graphs in an effort to convey what it believes are the main contributing factors that can 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

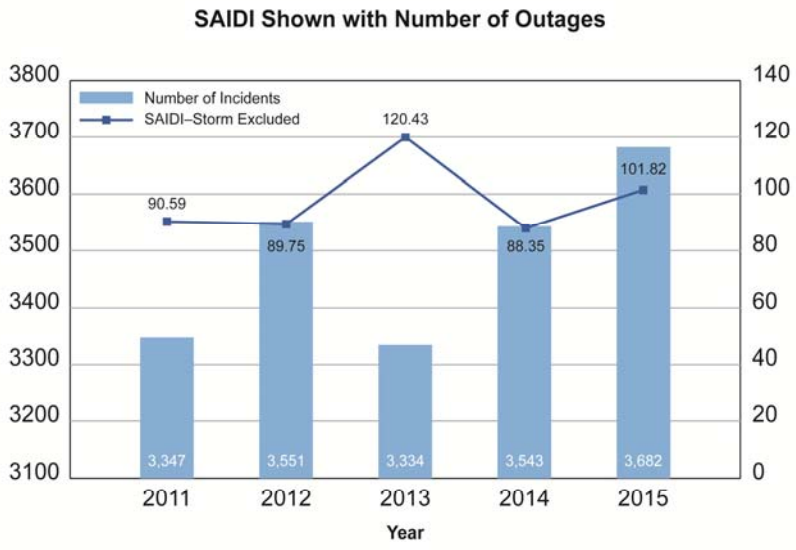
UG – Underground



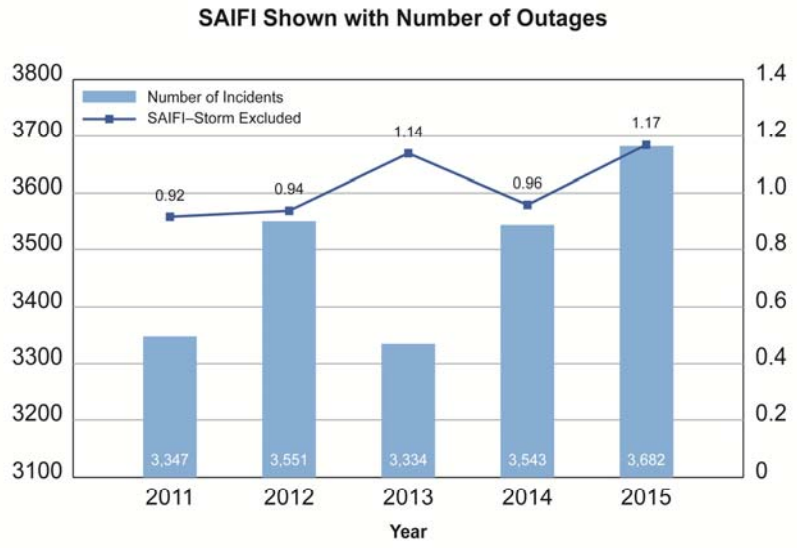
This chart shows the percentage of Company non-storm excluded SAIFI reported by each of the identified causes.

OH – Overhead

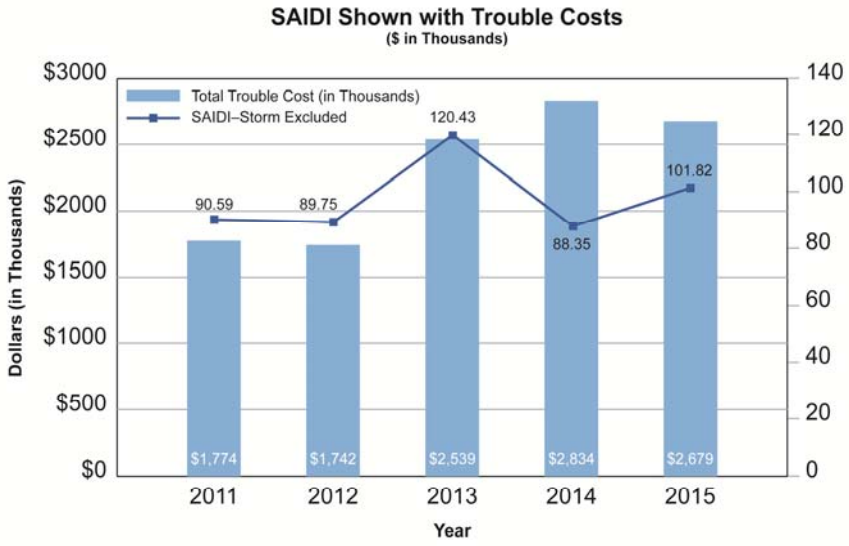
UG – Underground



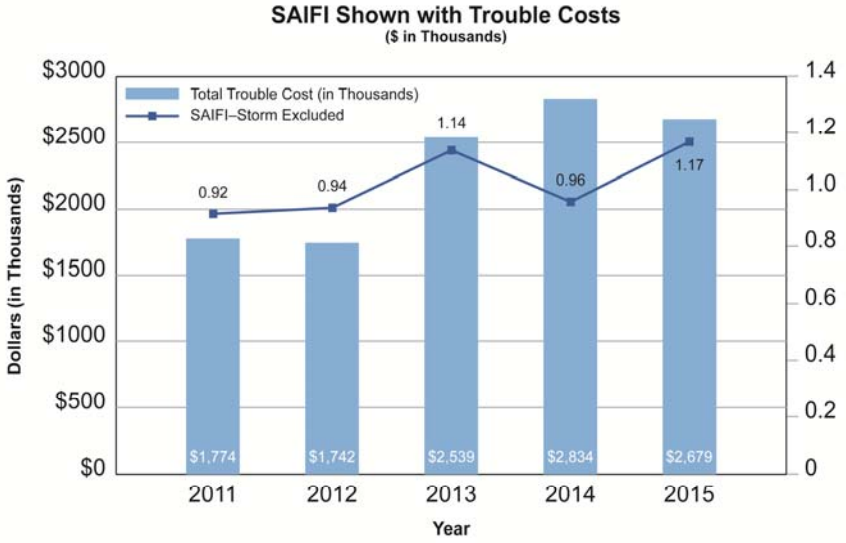
This chart presents SAIDI against Minnesota Power's historic number of outages 2011-2015.



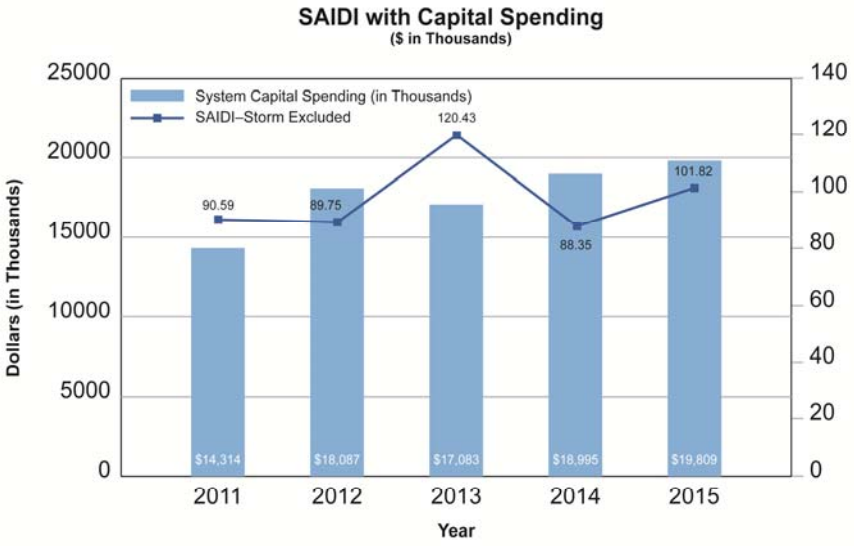
This chart presents SAIFI against Minnesota Power's historic number of outages 2011-2015.



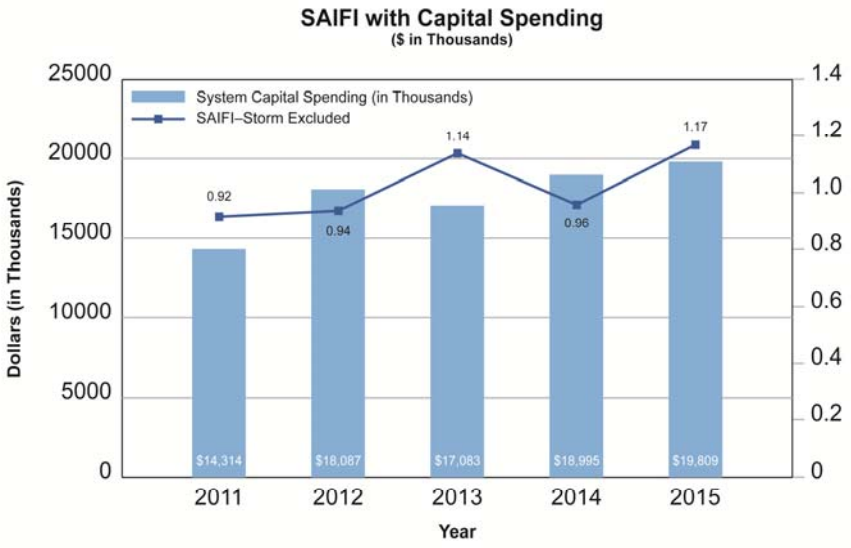
This chart shows SAIDI with operation & maintenance dollars spent on trouble calls 2011-2015. (This is unplanned work done without the replacement of capital assets.)



This chart shows SAIFI with operation & maintenance dollars spent on trouble calls 2011-2015. (This is unplanned work done without the replacement of capital assets.)



This chart shows SAIDI compared to capital dollars spent on distribution system maintenance and upgrade 2011-2015. (This is generally planned work done to address revenue, system improvements, age related replacements, bulk substation improvements, government mandates and other projects.)



This chart shows SAIFI compared to capital dollars invested on distribution system maintenance and upgrade 2011-2015. (This is generally planned work.)

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.

In 2006, Minnesota Power began a pilot program to install voltage/outage monitoring equipment on primary lines not monitored by its EMS. These were normally lower voltage rural systems served by substations without communications infrastructure. The pilot has grown over the past several years to include other applications including customer sites and some lines that had limited EMS data points. The Company has over 150 monitors active at this time. Minnesota Power is partnered with Sensus-Telemetric and utilizes their monitors that are communicating through a public cellular network (TCP/IP). Sensus-Telemetric hosts the web site where the information is made available to build reports and set up alarms (email messages). Minnesota Power has completed an evaluation to provide Telemetric Voltage Monitors ("TVM-3") alarms to its dispatchers through an interface with the OMS. Sensus Distribution Automation TVM voltage monitors measure line voltage and provide real-time notifications of steady state values, outages and under or over voltage conditions. The TVM-3 provides outage information more rapidly than customer calls. It also confirms when service is restored. When dispatchers get crews to accurate locations more quickly, outage restoration times can be reduced. Improved monitoring of voltages also helps the Company determine the overall condition of the system.

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

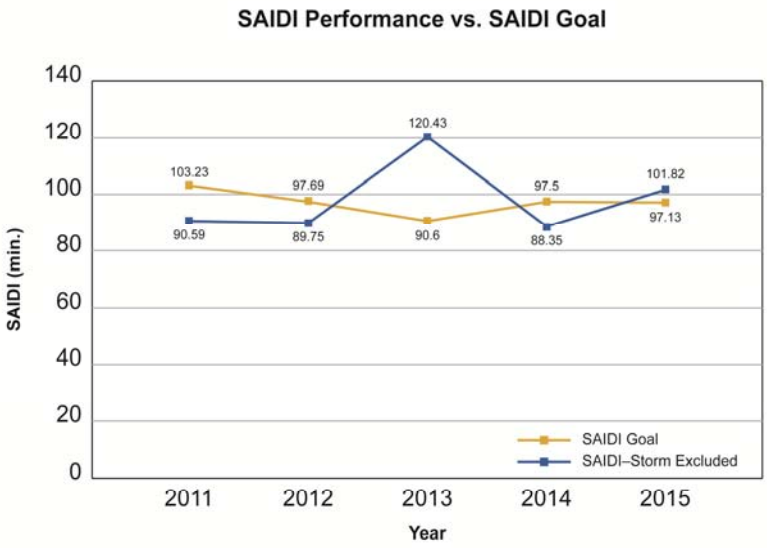
potential benefits. Unfortunately, as the capability to collect momentary information improves, the performance trend of the statistics may likely appear to degrade.

Momentary outage data is collected a few ways. About 30 percent of Minnesota Power's systems report through SCADA[13] 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 2015 has been provided in the summary table on Page 25.

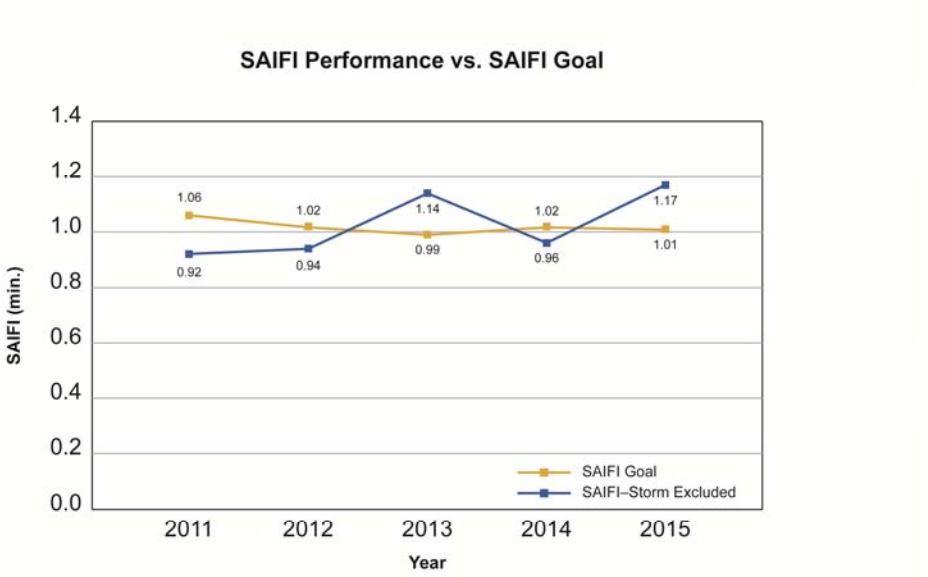
[13] Supervisory Control and Data Acquisition "SCADA" A system of remote control and telemetry used to monitor and control the electrical system.

V. MINNESOTA POWER 2015 SUMMARY GRAPHS

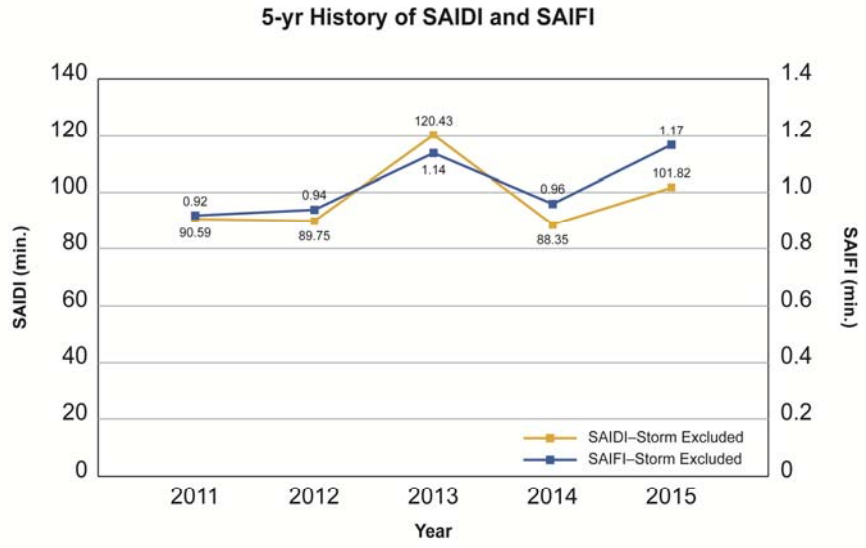
Minnesota Power is committed to maintaining safe, reliable and cost effective electricity service. Minnesota Power strives to provide high quality customer service. Further details on 2015 performance results are contained Pages 23-26 of this report beginning with graphs of the safety, reliability and service quality issues which impact Minnesota Power's customers.



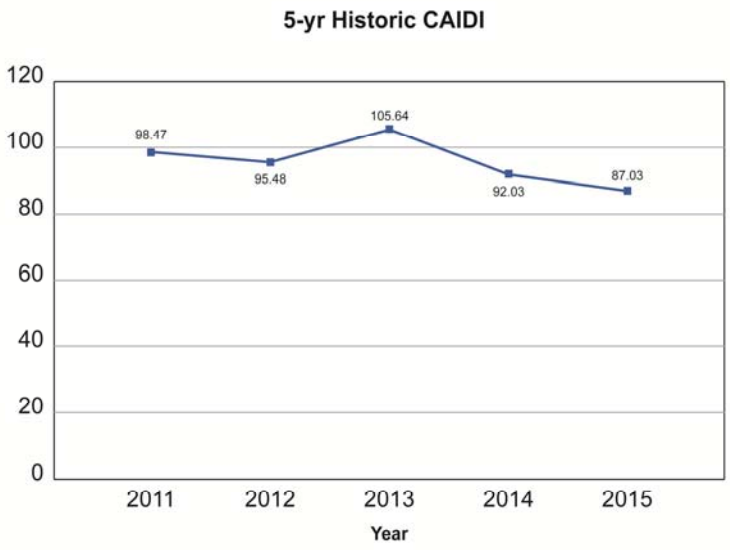
SAIDI is the System Average Interruption Duration Index. SAIDI provides the duration, in minutes, of the average time customers are interrupted.



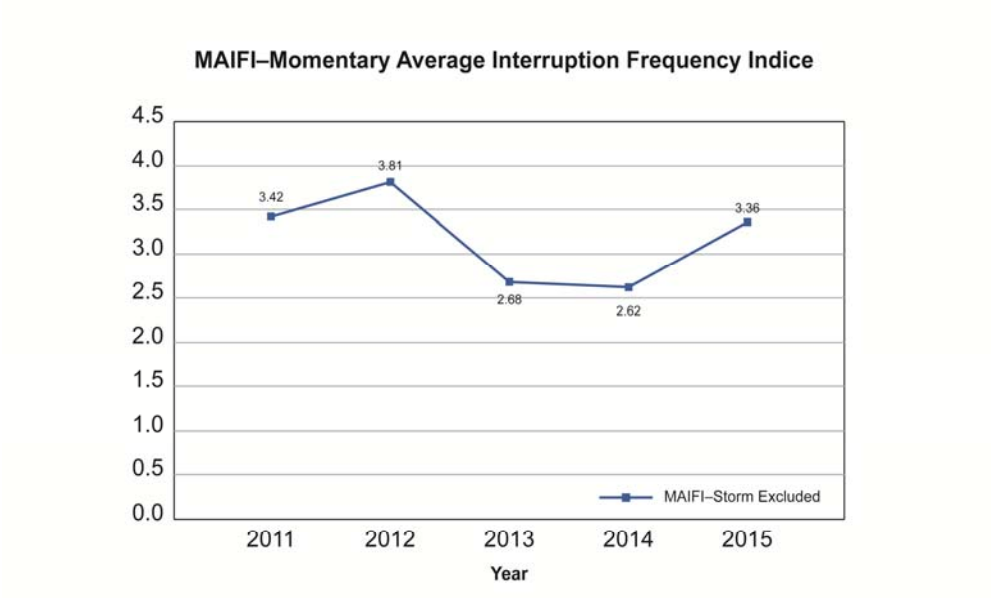
SAIFI is the System Average Interruption Frequency Index. SAIFI provides the frequency of sustained power outages (longer than five minutes) experienced by the average customer.



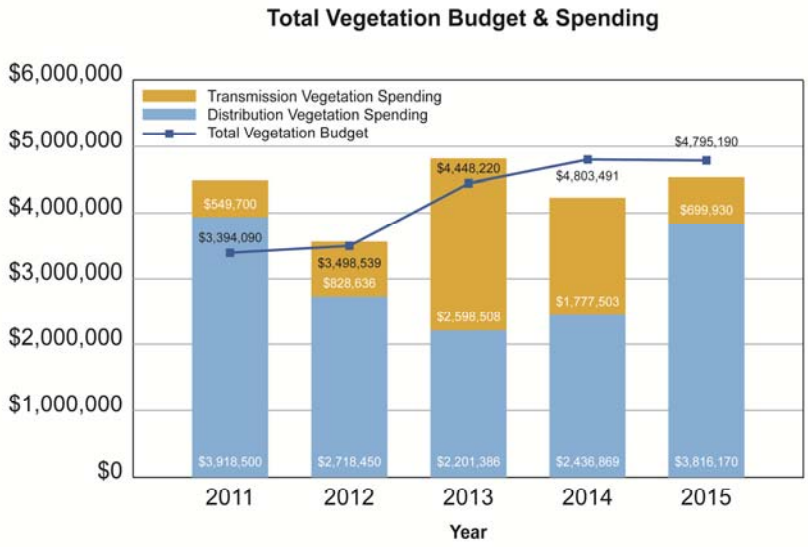
SAIFI is an indication of how many outages an average customer experiences and SAIDI is an indication of how long the average customer is without power.



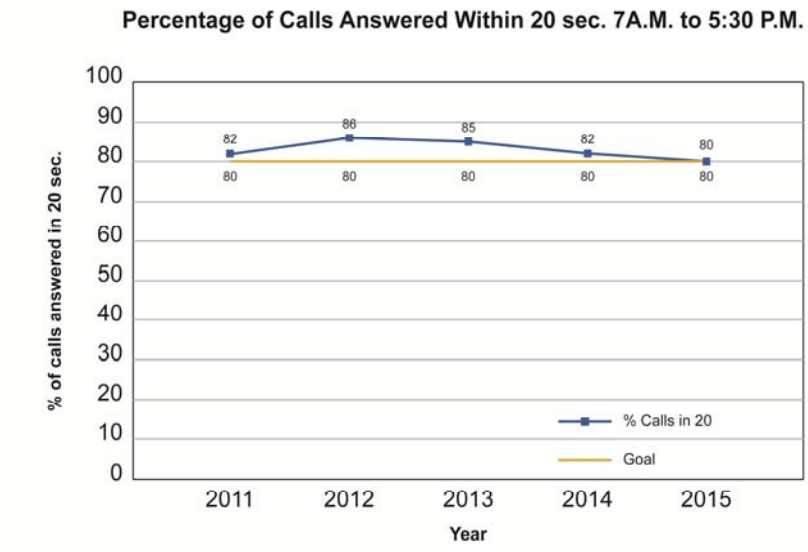
CAIDI is derived by dividing SAIDI by SAIFI. The statistic generally speaks to the amount of time needed to respond to an outage.



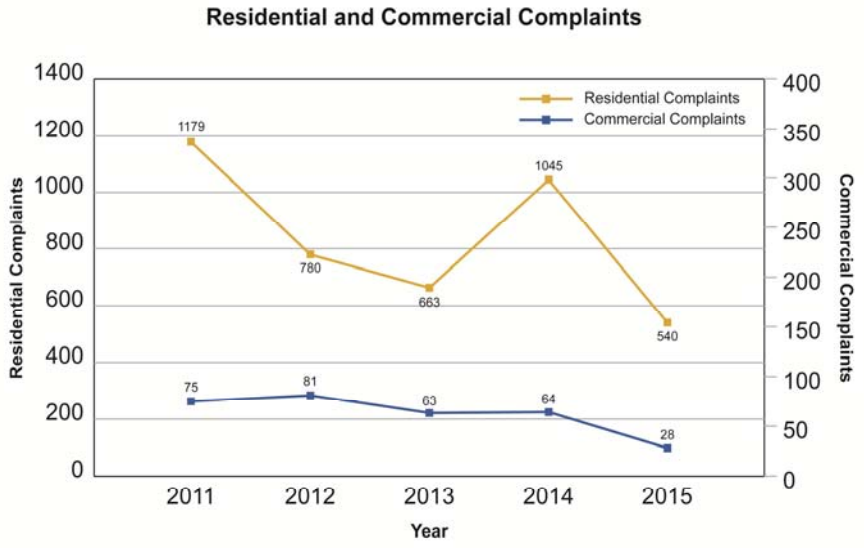
MAIFI is the Momentary Average Interruption Frequency Index.



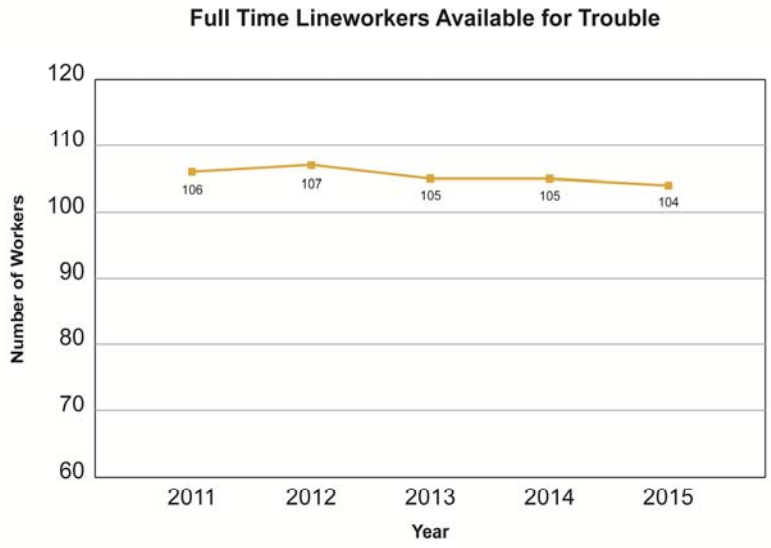
Total vegetation budget and spending on the Minnesota Power's system for 2011-2015.



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



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 2015.

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.*

Number of Cases

Total number of deaths	Total number of cases with days away from work	Total number of cases with job transfer or restriction	Total number of other recordable cases
0	5	4	8

Number of Days

Total days of job transfer or restriction	Total days away from work
115	26

Injury and Illness Types

Injuries	Skin disorders	Respiratory conditions	Poisonings	Other Illnesses
17	0	0	0	0

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 2015 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:

Date of Claim	Name	Cause of Damage	Paid	Remedial Action
4/7/2015	West Island Lake Road Association	Work Procedure	119.26	Reimbursement Made for Damages Incurred
3/23/2015	Savage, Bill & Sharon	Miscellaneous Equipment Failure	912.25	Reimbursement Made for Damages Incurred
6/22/2015	Hoeft, Robert	Work Procedure	125.00	Reimbursement Made for Damages Incurred
7/12/2015	Nygaard, Reuel	Work Procedure	46.42	Reimbursement Made for Damages Incurred
7/12/2015	Blunt, Jim	Work Procedure	671.00	Reimbursement Made for Damages Incurred
7/12/2015	Lind, Jesse	Work Procedure	78.06	Reimbursement Made for Damages Incurred
7/1/2015	NE Regional Corrections	Work Procedure	756.21	Reimbursement Made for Damages Incurred
8/18/2015	R R Donnelley	Work Procedure	8,744.49	Reimbursement Made for Damages Incurred
7/28/2015	Spicer, Keith	Work Procedure	571.44	Reimbursement Made for Damages Incurred
7/12/2015	Jones, Mike	Miscellaneous Equipment I	513.00	Reimbursement Made for Damages Incurred
7/14/2015	Asinger, Richard	Work Procedure	975.00	Reimbursement Made for Damages Incurred
8/18/2015	Central Biproducts	Work Procedure	13,874.96	Reimbursement Made for Damages Incurred
7/12/2015	Miller, Ron	Work Procedure	1,260.00	Reimbursement Made for Damages Incurred
7/12/2015	Eng, Raymond	Work Procedure	640.00	Reimbursement Made for Damages Incurred
8/13/2015	Gunderson, Vic & Michelle	Work Procedure	347.82	Reimbursement Made for Damages Incurred
9/1/2015	Watts, William	Work Procedure	530.88	Reimbursement Made for Damages Incurred
11/2/2015	Starkovich, George	Work Procedure	4,232.98	Reimbursement Made for Damages Incurred
10/14/2015	TDS Telecom	Work Procedure	34,330.68	Reimbursement Made for Damages Incurred
11/10/2015	Fedora, Tony & Kathy	Work Procedure	116.00	Reimbursement Made for Damages Incurred
1/21/2015	DeFrance, Tom	Miscellaneous Equipment Failure	1,751.57	Reimbursement Made for Damages Incurred
1/2/2015	Gentry, Bonita	Work Procedure	90.00	Reimbursement Made for Damages Incurred
1/9/2015	Mrosla, Paul	Miscellaneous Equipment Failure	387.97	Reimbursement Made for Damages Incurred
1/12/2015	Enterprise	Vehicle Damage	1,057.22	Reimbursement Made for Damages Incurred
2/16/2015	Huberty, David	Vehicle Damage	2,363.59	Reimbursement Made for Damages Incurred
7/17/2015	Enterprise	Vehicle Damage	100.00	Reimbursement Made for Damages Incurred
7/23/2015	Enterprise	Vehicle Damage	280.00	Reimbursement Made for Damages Incurred
7/16/15	Enterprise	Vehicle Damage	100	Reimbursement Made for Damages Incurred
10/8/2015	Enterprise	Vehicle Damage	433.61	Reimbursement Made for Damages Incurred
1/12/15	Enterprise	Vehicle Damage	966.51	Reimbursement Made for Damages Incurred
Total Claims: 29		**Total Payments:**	$76,375.92	

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 two excluded events in 2015, 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) **2015**	101.82

SAIDI calculated from Major Event Excluded data:

SAIDI (in minutes) **2015**	192.64

Major Event normalized using the IEEE 2.5 Beta method:

SAIDI (in minutes) **2015**	101.82

Non-Major Event normalized:

SAIDI (in minutes) **2015**	294.46

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

SAIFI (# of outages) **2015**	1.17

SAIFI calculated from Major Event Excluded data:

SAIFI (# of outages) **2015**	0.16

Major Event normalized using the IEEE 2.5 Beta method:

SAIFI (# of outages) **2015**	1.17

Non-Major Event normalized:

SAIFI (# of outages) **2015**	1.33

.

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) **2015**	87.03

CAIDI calculated from Major Event Excluded data:

CAIDI (outage min/customer) **2015**	1204.00

Major Event normalized using the IEEE 2.5 Beta method:

CAIDI (outage min/customer) **2015**	87.03

Non-Major Event normalized:

CAIDI (outage min/customer) **2015**	221.40

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

In 2015, there were two 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. Two weather related major events were 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. Storm exclusion has followed a similar pattern in previous years. In 2004 and 2002 there were no events excluded. Three events were excluded in 2003 and only one in 2001 and 2005.

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 its reliability goals for both SAIDI and SAIFI in 2015. Unfortunately, Minnesota Power experienced a number of sizeable power outages, including weather related events and vehicle accidents. In terms of these events, Minnesota Power has little control over some of these external forces and

the frequency of these events in 2015 was abnormally high. In an effort to reduce tree-related outages, Minnesota Power has had a tree-trimming program in place for many years now. Each distribution feeder is on a 5-year tree-trimming cycle. There are a handful of multi-year tree trimming projects that are designed to increase overall reliability to Duluth customers. Minnesota Power has been working over the past couple of years to install and program two sets of intellirupters (smart switches) which in theory will drastically increase the resiliency of the grid on the feeders on which they are installed. Additionally, Minnesota Power has been aggressively replacing old lead cable and collapsed duct banks in the downtown Duluth area.

Minnesota Power used the 2.5 Beta method for excluding storm related outages, which excluded two weather related major events in 2015.

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.*

23 Line–

- On **January 23, 2015,** a broken insulator on Thomson 23L caused Kerrick to lockout. Kerrick was being fed from Thomson 23L because of an ongoing project between Kerrick and Askov. Crews repaired the insulator and restored power. No further action is necessary.
- On **September 10, 2015,** 23L went down due to a vehicle accident, locking out both Kerrick and Askov. 254 Kerrick customers were without power for 78 minutes and all 464 Askov customers were without power for ten minutes. Crews removed the tree and repaired the pole that was struck. No further action is necessary.
- On **September 15, 2015,** 23L locked out due to a tree on the line. 254 customers were without power for 13 minutes while crews could remove the tree and restore power. No further action is necessary.
- On **November 18, 2015,** Kerrick locked out due to a tree on the line. 254 customers were without power for 46 minutes while crews could remove the tree and restore power. No further action is necessary.

26 Line–

- On **November 5, 2015,** 26L locked out due to a blown arrestor at the Cromwell substation. Approximately 1995 customers were without power for 58 minutes while crews could identify the problem and make repairs. No further action is necessary.

30 Line–

- On **April 19, 2015,** a blown insulator one 30L caused 30L and Giant's Ridge 1 to lockout. Crews were able to partially restore the 302 customers in an average of 280 minutes. No further action is necessary.

32 Line–

- On **February 10, 2015,** a bad insulator on 32L caused it and 33L to lockout. 867 Tower Soudan customers were without power for 78 minutes while crews could replace the insulator. No further action is necessary.

33 Line–

- On **February 10, 2015,** a bad insulator on 32L caused it and 33L to lockout. 580 St. Croix customers were without power for 161 minutes while crews could replace the insulator. No further action is necessary.

59 Line–

- On **December 29, 2015,** 59L locked out due to a tree on the line between the 59L breaker and the Barnum 77. Crews were able to systematically partially restore power to customers. In total, 3581 customers were without power for approximately 94.5 minutes while crews could remove the tree and repair damage. No further action is necessary.

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

There were 33 reports filed under 7826.0700 during 2015. Please refer to Attachment B for written copies of the reports.

Feeder Id	Communities	Customers Affected	Date	Time Off/Time On	Duration	Cause
HNS-237	Hermantown	1510	1/29/2015	4:42/5:54	72 MINUTES	Bad cable outside of Substation.
TOW-32	Tower, Soudan	865	2/10/2015	2:53/4:09	76 MINUTES	Broken pin insulatoron the 33 line
HNS-237	Duluth	1533	3/29/2015	4:58/7:23	145 MINUTES	Broken insulator at regulators
CLQ-406	Cloquet	2,395	3/30/2015	8:40/10:59	139 MINUTES	Planned Outage (Overloaded feeder tripped out)
TWN-2	Tower,Soudan	555	4/18/2015	11:32/1:15	103 MINUTE	Outage to repair crossarm
VRG-311	Eveleth, Cherry, Iron	593	4/19/2015	5:15/9:50	275 MINUTES	Bad insulator
FCS-214	Hermantown, Canosia	1788	5/10/2015	6:21/7:54	93 MINUTES	Cutouts failed on transformer bank
CHL-1	Chisholm	914	5/13/2015	3:57/5:20	83 MINUTES	Unknown
NAS-319	Coleraine, Pengilly, Nashwauk, Marble, Calumet	728	5/18/2015	5:18/6:55	73 MINUTES	Unknown
FRR-276	Lakewood	533	5/27/2015	11:02/12:25	83 MINUTES	Tree fell on wire
VRG-303	Eveleth	2514	6/20/2015	12:48/3:12	144 MINUTES	S Phase of the 39 Transmission Line fell onto 303 Feeder
BAR-6421	Barnum	859	6/22/2015	3:46/4:50	64 MINUTES	Weather
DEN-6431	Sandstone, Willow River	1057	6/22/2015	3:01/4:40	99 MINUTES	Unknown
SAN-452	Sandstone	1230	6/22/2015	3:57/6:45	228 MINUTES	Storms knocked tree onto feeder
FCS-214	Hermantown	1388	6/29/2015	11:09/12:12	63 MINUTES	Tree on feeder
NAS-319	Pengilly, Nashwauk, Marble, Calumet	1518	7/5/2015	8:50/10:56	126 MINUTES	Weather
LSP-225	West Duluth	1815	7/12/2015	6:35/7:57	82 MINUTES	Transformer
BAB-1	Babbitt	745	7/12/2015	12:00/5:57	457 MINUTES	Lightning
MOT-1	Motley	526	7/12/2015	5:05/4:00	855 MINUTES	Weather
BLD-511	Little Falls	638	7/12/2015	6:44/8:49	125 MINUTES	Weather
PIL-1	Pillager	576	7/12/2015	7:14/7:15	3721 MINUTES	Weather
GLL-1	Gull Lake, Nisswa	1063	7/12/2015	7:18/3:16	4798 MINUTES	Weather
NPS-1	Gull Lake, Nisswa	551	7/12/2015	7:18/12:43	1731 MINUTES	Weather
TWN-2	Tower	455	7/20/2015	7:29/9:15	106 MINUTES	Dig
NAS-319	Bovey, Marble, Taconite	644	7/23/2015	11:46/1:20	90 MINUTES	Lawnmowers broke guy wire and pole wire fell
409	Cloquet, Esko	3000	7/29/2015	2:34/5:00	146 MINUTES	Unknown
GGR-1	Long Prairie	554	8/1/2015	11:53/2:30	157 MINUTES	Substation Failure
FIF-260	Duluth-Canal Park	975	8/14/2015	6:29/8:51	144 MINUTES	Underground Failure
FRR-275	Lakewood, Normanna, and North Shore Duluth	859	8/31/2015	9:34/2:02	268 MINUTES	Trees on line
LFW-1	Little Falls	923	9/18/2015	10:43/4:23	340 MINUTES	Regulator/recloser lockout
GGR-1	Long Prairie	952	10/11/2015	8:14/11:00	106 MINUTES	Weather
DEN-6431	Sturgeon Lake, Willow River, Moose Lake	1127	12/29/2015	12:36/2:26	110 MINUTES	Tree on line
BAR-6421	Barnum, Moose Lake	890	12/29/2015	12:36/3:04	152 MINUTES	Tree on line

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 its 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)	Hole in the Day Drive 1	366	549.00	3.97	**138.29**
High Customer Outage Minutes (Urban)	Cloquet 406	3207	232.46	3.92	**59.30**
High Feeder SAIDI (Rural)	Nashwauk 314	3	533.00	2.00	**266.50**
High Customer Outage Minutes (Rural)	Colbyville 240	3405	245.62	2.31	**106.33**

Hole in the Day Drive 1

Major Outage Events:

- **March 25, 2015** – There was a burnt cross arm on the feeder that took down multiple phases.
  - Crews repaired the crossarm, replaced insulators and restored power.
- **August 2, 2015** – Primary underground cable failed. Additionally, crews attempted to restore via switching unsuccessfully. More underground cable failed later in the same day.
  - Crews replaced the underground cable, attempted switching unsuccessfully, but eventually restored all customers after repairs were made.

Cloquet 406

Major Outage Events:

- **March 16, 2015** – An insulator flashed over causing a pole fire during the first rain of the year.
  - Crews repaired the insulator and restored power.
- **March 30, 2015** – Occurred during a planned outage on 406. Crews attempted to switch load as planned onto MHR 451 but it caused a feeder overload and 406 tripped out.
  - The feeder was restored to normal configuration and power restored.
- **April 19, 2015** – A slow burn on an insulator turned into a pole fire which eventually took out a junction pole.
  - Crews were able to restore customer via switching.

Nashwauk 314

Major Outage Events:

- **May 11, 2015** – Multiple insulators failed causing the substation to trip.
  - Crews patrolled the entire feeder and it took some time before the problem could be identified. The insulators were replaced and power restored.

Colbyville 240

Major Outage Events:

- **July 25, 2015** – Overhead conductor failure (not overloading) near the substation caused the feeder to trip. Vast majority of customers restored through switching in less than 20 minutes. However, many customers were without power for as long as 224 minutes.
  - Restored through switching when possible. Primary repaired and power restored.
- **August 31, 2015** – A tree fell on the line between the Lismore F and a tie-switch. One of our reclosers failed to operate.
  - Crews worked quickly and safely to remove the tree and restore power. Some customers were restored via switching.
- **November 29, 2015** – Crews suspected loading issues although further review rules out overloading. A single-phase bypass fuse melted through.
  - Crews installed a new fuse and restored power.

l. *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 21 reported instances in 2015.

Date	Account #	Trouble Order
1/6/2015	790175930	325972
1/9/2015	560033206	326114
2/3/2015	6580124752	328023
2/16/2015	6510074743	328735
3/3/2015	1450179773	329610
3/4/2015	1200196459	329710
4/3/2015	320159927	333665
5/28/2015	60094899	338721
6/2/2015	2480188548	339043
6/17/2015	8840047176	340030
7/27/2015	600184325	349757
7/27/2015	1280222507	349772
7/28/2015	1030132912	349862
8/4/2015	210124741	351331
8/18/2015	20184384	352949
8/18/2015	640014735	352983
8/18/2015	20184384	353129
10/12/2015	6090021879	359365
12/17/2015	3050156597	364102
12/17/2015	5350094860	364127
12/19/2015	80058513	364198

Minnesota Power continued to experience large turnover in its service dispatch department in 2015. The Company's process for recording and tracking ANSI voltage violations has improved but Minnesota Power is still working on the best solution to record and store this data. The current method is to record violations in a separate field on the trouble orders within the Outage Management System. That being said, there is an existing process employees 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 2015 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 114 full-time equivalent field employee positions at the beginning of 2015 responsible for responding to trouble calls and operation and maintenance of distribution lines. Due to turnover, staffing levels fell as low as 104 filled field positions throughout the year.

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 2016:

SAIDI = 98.19
SAIFI = 1.02
CAIDI = 96.26

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.

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	Co. Reads	Est	Total	% Read	System Total	% Read of System Total
Jan-15	113,863	1,225	115,088	**98.94%**	146,954	**77.48%**
Feb-15	112,764	1,512	114,276	**98.68%**	146,934	**76.74%**
Mar-15	113,603	613	114,216	**99.46%**	146,919	**77.32%**
Apr-15	116,573	859	117,432	**99.27%**	146,929	**79.34%**
May-15	139,055	2,818	141,873	**98.01%**	146,914	**94.65%**
Jun-15	116,396	3,204	119,600	**97.32%**	148,031	**78.63%**
Jul-15	135,150	3,005	138,155	**97.82%**	148,828	**90.81%**
Aug-15	123,534	6,412	129,946	**95.07%**	148,869	**82.98%**
Sep-15	116,766	3,498	120,264	**97.09%**	148,890	**78.44%**
Oct-15	135,097	4,164	139,261	**97.01%**	149,014	**90.66%**
Nov-15	127,695	1,204	128,899	**99.07%**	149,069	**85.66%**
Dec-15	127,527	1,430	128,957	**98.89%**	149,026	**85.57%**
2015 Avg	123,169	2,495	125,664	**98.05%**	148,031	**83.19%**

Commercial

Month	Co. Reads	Est	Total	% Read	System Total	% Read of System Total
Jan-15	19,695	293	19,988	**98.53%**	146,954	**13.40%**
Feb-15	19,592	306	19,898	**98.46%**	146,934	**13.33%**
Mar-15	19,988	178	20,166	**99.12%**	146,919	**13.60%**
Apr-15	18,378	184	18,562	**99.01%**	146,929	**12.51%**
May-15	21,416	553	21,969	**97.48%**	146,914	**14.58%**
Jun-15	17,517	494	18,011	**97.26%**	148,031	**11.83%**
Jul-15	20,949	532	21,481	**97.52%**	148,828	**14.08%**
Aug-15	19,435	777	20,212	**96.16%**	148,869	**13.06%**
Sep-15	18,485	509	18,994	**97.32%**	148,890	**12.42%**
Oct-15	21,280	234	21,514	**98.91%**	149,014	**14.28%**
Nov-15	20,215	23	20,238	**99.89%**	149,069	**13.56%**
Dec-15	19,935	74	20,009	**99.63%**	149,026	**13.38%**
2015 Avg	19,740	346	20,087	**98.27%**	148,031	**13.34%**

Industrial

Month	Co. Reads	Est	Total	% Read	System Total	% Read of System Total
Jan-15	462	2	464	**99.57%**	146,954	**0.31%**
Feb-15	449	3	452	**99.34%**	146,934	**0.31%**
Mar-15	451	0	451	**100.00%**	146,919	**0.31%**
Apr-15	370	1	371	**99.73%**	146,929	**0.25%**
May-15	425	6	431	**98.61%**	146,914	**0.29%**
Jun-15	371	2	373	**99.46%**	148,031	**0.25%**
Jul-15	408	3	411	**99.27%**	148,828	**0.27%**
Aug-15	394	2	396	**99.49%**	148,869	**0.26%**
Sep-15	394	2	396	**99.49%**	148,890	**0.26%**
Oct-15	413	0	413	**100.00%**	149,014	**0.28%**
Nov-15	394	0	394	**100.00%**	149,069	**0.26%**
Dec-15	405	0	405	**100.00%**	149,026	**0.27%**
2015 Avg	411	2	413	**99.58%**	148,031	**0.28%**

Municipal Pumping

Month	Co. Reads	Est	Total	% Read	System Total	% Read of System Total
Jan-15	314	4	318	**98.74%**	146,954	**0.21%**
Feb-15	310	7	317	**97.79%**	146,934	**0.21%**
Mar-15	318	4	318	**100.00%**	146,919	**0.22%**
Apr-15	253	-	253	**100.00%**	146,929	**0.17%**
May-15	297	3	299	**99.33%**	146,914	**0.20%**
Jun-15	248	1	249	**99.60%**	148,031	**0.17%**
Jul-15	301	-	301	**100.00%**	148,828	**0.20%**
Aug-15	278	1	279	**99.64%**	148,869	**0.19%**
Sep-15	250	-	250	**100.00%**	148,890	**0.17%**
Oct-15	305	-	305	**100.00%**	149,014	**0.20%**
Nov-15	278	-	278	**100.00%**	149,069	**0.19%**
Dec-15	261	-	261	**100.00%**	149,026	**0.18%**
2015 Avg	284	2	286	**99.59%**	148,031	**0.19%**

Lighting

Month	Co. Reads	Est	Total	% Read	System Total	% Read of System Total
Jan-15	208	2	210	**99.05%**	146,954	**0.14%**
Feb-15	208	2	210	**99.05%**	146,934	**0.14%**
Mar-15	209	1	210	**99.52%**	146,919	**0.14%**
Apr-15	301	-	301	**100.00%**	146,929	**0.20%**
May-15	326	-	326	**100.00%**	146,914	**0.22%**
Jun-15	295	1	296	**99.66%**	148,031	**0.20%**
Jul-15	322	-	322	**100.00%**	148,828	**0.22%**
Aug-15	314	1	315	**99.68%**	148,869	**0.21%**
Sep-15	293	1	294	**99.66%**	148,890	**0.20%**
Oct-15	326	-	326	**100.00%**	149,014	**0.22%**
Nov-15	319	-	319	**100.00%**	149,069	**0.21%**
Dec-15	271	-	271	**100.00%**	149,026	**0.18%**
2015 Avg	283	1	283	**99.72%**		**0.19%**

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

Residential

Month	Cust Reads	Est	Total	% Read	System Total	% Read of System Total
Jan-15	43	3	46	**93.48%**	146,954	**0.03%**
Feb-15	49	4	53	**92.45%**	146,934	**0.03%**
Mar-15	48	2	50	**96.00%**	146,919	**0.03%**
Apr-15	50	-	50	**100.00%**	146,929	**0.03%**
May-15	71	2	73	**97.26%**	146,914	**0.05%**
Jun-15	50	3	53	**94.34%**	148,031	**0.03%**
Jul-15	69	2	71	**97.18%**	148,828	**0.05%**
Aug-15	50	14	64	**78.13%**	148,869	**0.03%**
Sep-15	51	4	55	**92.73%**	148,890	**0.03%**
Oct-15	68	5	73	**93.15%**	149,014	**0.05%**
Nov-15	60	2	62	**96.77%**	149,069	**0.04%**
Dec-15	59	3	62	**95.16%**	149,026	**0.04%**
2015 Avg	56	4	59	**93.89%**	148,031	**0.04%**

Commercial

Month	Cust Reads	Est	Total	% Read	System Total	% Read of System Total
Jan-15	10	-	10	**100.00%**	146,954	**0.01%**
Feb-15	11	1	12	**91.67%**	146,934	**0.01%**
Mar-15	11	-	11	**100.00%**	146,919	**0.01%**
Apr-15	11	-	11	**100.00%**	146,929	**0.01%**
May-15	12	-	12	**100.00%**	146,914	**0.01%**
Jun-15	9	1	10	**90.00%**	148,031	**0.01%**
Jul-15	10	1	11	**90.91%**	148,828	**0.01%**
Aug-15	12	-	12	**100.00%**	148,869	**0.01%**
Sep-15	10	-	10	**100.00%**	148,890	**0.01%**
Oct-15	11	-	11	**100.00%**	149,014	**0.01%**
Nov-15	12	-	12	**100.00%**	149,069	**0.01%**
Dec-15	11	-	11	**100.00%**	149,026	**0.01%**
2015 Avg	11		11	**97.71%**	148,031	**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	36	0.024%	No Access/AMR	0	0.000%
7 Months	19	0.013%	No Access/AMR	0	0.000%
8 Months	20	0.013%	No Access/AMR	0	0.000%
9 Months	3	0.002%	No Access/AMR	0	0.000%
10 Months	1	0.001%	No Access/AMR	0	0.000%
11 Months	3	0.002%	No Access/AMR	0	0.000%
12 Months	2	0.001%	No Access/AMR	0	0.000%
12+Months	5	0.003%	No Access/AMR	0	0.000%
Totals:	**89**			**-**	**-**

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)

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

2015 INVOLUNTARY DISCONNECT REPORT

	# Customers Receiving Disconnection Notices			# Customers requested CWR Protection	# Customers Granted CWR Protection	# Customers Disconnected Involuntarily			# Customers Restored within 24 Hours			# Customers Restored to Service by entering into a Payment Plan		
Month	Res	Com	Ind	Res Only	Res Only	Res	Com	Ind	Res	Com	Ind	Res	Com	Ind
Jan	3335	884	18	434	434	60	2	0	12	0	0	7	0	0
Feb	5978	534	10	324	324	34	3	0	9	0	0	6	0	0
Mar	4531	651	17	70	70	0	4	0	1	0	0	2	0	0
Apr	3989	843	12	2	2	0	3	0	0	0	0	2	0	0
May	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jul	853	109	3	0	0	44	0	0	11	2	0	0	0	0
Aug	403	61	0	0	0	142	0	0	22	0	0	0	0	0
Sep	400	107	0	0	0	57	0	0	23	1	0	0	0	0
Oct	692	98	3	271	271	44	0	0	3	1	0	18	0	0
Nov	1348	113	2	586	586	77	4	0	36	0	0	7	0	0
Dec	1008	124	0	486	486	62	0	0	37	0	0	14	0	0
Totals	**22537**	**3524**	**65**	**2173**	**2173**	**520**	**16**	**0**	**154**	**4**	**0**	**56**	**0**	**0**

* Credit & Collections activity was temporarily curtailed as we implemented an upgrade to our Customer Information System in May. No disconnect warnings were sent and no disconnects were completed for May and June 2015

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 Locations not Previously Served

2015 Month	Request Date Met	1-10 Days	11-21 Days	Over 21 days	Total
Jan	26	19	0	2	47
Feb	5	1	1	1	8
Mar	56	2	1	1	60
Apr	11	1	0	0	12
May	67	15	2	0	84
Jun	87	43	4	8	142
Jul	108	28	18	12	166
Aug	69	43	6	0	118
Sep	72	48	16	6	142
Oct	86	43	17	9	155
Nov	68	26	8	4	106
Dec	47	28	2	0	77
Total	702	297	75	43	1117

Commerical Locations not Previously Served

2015 Month	Request Date Met	1-10 Days	11-21 Days	Over 21 days	Total
Jan	13	2	2	0	17
Feb	0	0	0	0	0
Mar	9	2	1	0	12
Apr	13	3	0	0	16
May	27	2	1	1	31
Jun	46	23	11	3	83
Jul	52	29	14	11	106
Aug	47	16	4	12	79
Sep	32	1	12	6	51
Oct	14	21	22	3	60
Nov	71	15	4	82	172
Dec	34	7	0	5	46
Total	358	121	71	123	673

Industrial Locations not Previously Served					
2015 Month	Request Date Met	1-10 Days	11-21 Days	Over 21 days	Total
Jan	0	0	0	0	0
Feb	0	0	0	0	0
Mar	0	0	0	0	0
Apr	0	0	0	0	0
May	4	0	0	0	4
Jun	0	0	0	0	0
Jul	2	0	0	0	2
Aug	0	0	0	0	0
Sep	2	0	0	0	2
Oct	2	0	0	0	2
Nov	0	0	0	0	0
Dec	0	0	0	0	0
Total	10	0	0	0	10

The following tables list 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:

Delays Due to Customer:		
Customer Site Not ready:	151	21.00%
Inspection Not Received:	43	6.00%
Late Notification	23	3.00%

Delays Due to Utility:		
Date Incorrect	129	18.00%
Job Redesigned	6	<1%
Workload	87	12.00%
Load on Meter	2	<1%
Followup from Legacy	5	<1%
Unable to Meet Date	6	<1%

Other:		
Waiting on Permits	9	1.00%
Weather	47	6.00%
Other	218	29.00%
Date Incorrect	3	<1%

B. *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 Locations Previously Served

2015 Month	Request Date Met	1-10 Days	11-21 Days	Over 21 days	Total
Jan	72	7	0	2	81
Feb	59	3	0	0	62
Mar	53	4	2	0	59
Apr	48	2	0	0	50
May	35	1	0	0	36
Jun	68	7	4	0	79
Jul	52	16	0	8	76
Aug	159	33	6	3	201
Sep	131	15	2	2	150
Oct	152	24	7	6	189
Nov	126	28	7	5	166
Dec	122	19	4	0	145
Total	1077	159	32	26	1294

Commercial Locations Previously Served

2015 Month	Request Date Met	1-10 Days	11-21 Days	Over 21 days	Total
Jan	22	0	0	0	22
Feb	11	1	0	1	13
Mar	14	0	2	0	16
Apr	10	0	1	2	13
May	7	0	0	0	7
Jun	39	3	1	0	43
Jul	16	13	0	2	31
Aug	30	3	6	0	39
Sep	28	0	0	0	28
Oct	40	2	0	0	42
Nov	34	2	1	4	41
Dec	55	8	4	2	69
Total	306	32	15	11	364

Industrial Locations Previously Served					
2015 Month	Request Date Met	1-10 Days	11-21 Days	Over 21 days	Total
Jan	6	0	0	0	6
Feb	0	0	0	0	0
Mar	0	0	0	0	0
Apr	0	0	0	0	0
May	0	0	0	0	0
Jun	0	0	0	0	0
Jul	1	0	0	0	1
Aug	0	0	0	0	0
Sep	0	0	0	0	0
Oct	3	0	0	0	3
Nov	1	0	0	0	1
Dec	2	0	0	0	2
Total	13	0	0	0	13

The following tables list, 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:

Delays Due to Customer:		
Customer Site Not ready	50	18.18%
Inspection Not Received	7	2.55%
Late Notification	16	5.82%

Delays Due to Utility:		
Dates Not Updated	49	17.82%
Workload	36	13.09%
Load on Meter	23	8.36%
Followup from Legacy	5	1.82%
Unable to Meet Date	3	1.09%

Other:		
Waiting on Permits	4	1.45%
Weather	8	2.91%
Other	64	23.27%
Date Incorrect	7	2.55%

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.

Business Hours 7:00 a.m. - 5:30 p.m.			
Month	**2015**	**Total Calls**	**Calls Answered within 20 seconds**
JAN	87%	13,013	11,270
FEB	89%	11,923	10,604
MAR	88%	13,777	12,100
APRIL	86%	13,895	11,924
MAY	78%	14,867	11,655
JUNE	88%	13,635	11,991
JULY	82%	14,670	12,042
AUG	78%	13,163	10,303
SEP	76%	12,852	9,745
OCT	78%	12,182	9,560
NOV	66%	11,251	7,456
DEC	62%	10,267	6,389
YTD	**80%**	**155495**	**125039**

Minnesota Power identified a fault with its reporting tool in early 2016 which resulted from a phone upgrade done in 2015. Recalculation of the call center response time results would have resulted in improved response rates in November and December of 2015. Due to time constraints and the fact that the target response of 80% was still met, the Company elected not to recalculate the rates at this juncture for the time period affected.

After Hours 5:30 p.m. - 7:00 a.m.			
Month	**2015**	**Total Calls**	**Calls Answered within 20 seconds**
JAN	73%	850	621
FEB	76%	726	549
MAR	78%	751	583
APRIL	79%	876	689
MAY	73%	1,343	983
JUNE	66%	964	638
JULY	63%	1,313	832
AUG	59%	1,100	651
SEP	69%	813	562
OCT	77%	644	495
NOV	79%	589	465
DEC	64%	612	393
YTD	**71.33%**	**10581**	**7461**

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.

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 2015, Minnesota Power had 50 customers request emergency medical account status. All 50 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 may be reconsidered in the future. No deposits were required in 2015.

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:

A. *The number of complaints received*.

2015														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Customer Class	Complaint Totals												Total	% of Total
[redacted]	[redacted]													
Residential	123	72	64	46	12	9	16	10	36	20	76	56	540	95%
[redacted]	[redacted]													

(Any complaints for other customer classes are handled individually and as such not recorded in Minnesota Power's Customer Information System.)

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*.

2015															
Number of Contacts															
CC Types	Customer Class	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	% of Total
Billing Error	C												1	1	0.18%
Billing Error	R		1	1			1			1	2	14	4	24	4.23%
High Bill Complaint	C	5	1	1	2	1		1		1		3	1	16	2.82%
High Bill Complaint	R	117	64	58	39	10	6	15	7	25	10	26	27	404	71.13%
Inadaquate Service	C			1							2	2		5	0.88%
Inadaquate Service	R	1	1		2	2		1		1	3	10	9	30	5.28%
Incorrect Metering	C		1						1	1		2	1	6	1.06%
Incorrect Metering	R	7	6	5	3		2		3	9	5	25	12	77	13.56%
Wrongful Disconnection	C													0	0.00%
Wrongful Disconnection	R											**1**	**4**	**5**	**0.88%**
Total		130	74	66	46	13	9	17	11	38	22	83	59	568	100.00%

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

2015														
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Group of Days To Resolution	**Customer Class**	**Contact Count**												
Greater Than 10 Days	Commercial									1		2	1	4
Greater Than 10 Days	Residential	2	1		1	2	2	4	2	2	2	12	11	41
Less Than 10 Days	Commercial											1		1
Less Than 10 Days	Residential	5	1	2	3		1			4	2	10	1	29
Same Day Resolution	Commercial	5	2	2	1	1		1	1	1	2	4	2	22
Same Day Resolution	Residential	116	70	62	43	10	6	12	8	30	16	54	43	470
Total		**128**	**74**	**66**	**48**	**13**	**9**	**17**	**11**	**37**	**22**	**81**	**57**	**563**

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.*

2015				
	Commercial	**Residential**	**Total**	**% Resolved**
Resolution Reason	**Count of Contacts**			**Contacts**
Customer Request	2	80	82	14%
Compromise	10	171	181	32%
No Control	15	277	292	51%
Refuse	0	12	12	2%
Total	**27**	**540**	**567**	**100%**

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

Minnesota Power had 13 complaints (11 Residential/2 Commercial) forwarded to the utility by the Commission's Consumers Affairs Office for further investigation and action in 2015.

2015														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Total**	
Customer Class	**Complaint Forward from MPUC**													**% of Total**
Commercial	0	0	0	0	0	0	0	0	1	0	1	0	**2**	15%
Residential	2	0	0	2	2	2	0	0	1	1	1	0	**11**	85%
Total	**2**	**0**	**0**	**2**	**2**	**2**	**0**	**0**	**2**	**1**	**2**	**0**	**13**	**100%**

Reports Filed Under 7826.0700

Safety, Reliability and Service Quality Standards Report

Form No. 6102 Rev. 7/10

Subject: HNS-237 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: HNS-237

Date Out:	01/29/15	Date In:	01/29/15
Time Out:	04:42	Time In:	05:54

Duration: 72 min

Number of Customers Affected: 1510

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

For follow-up information or questions, contact: Stefanie Hayes, OCC

Communities Affected: Hermantown

Major Customers: na

Cause: Bad cable outside sub.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: TOW-32

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: TOW-32

Date Out:	02/10/15	Date In:	02/10/15
Time Out:	2:53 PM	Time In:	4:09 PM

Duration: 1:16

Number of Customers Affected: 865

For information about this alert, contact: Jill Feriancek
218-720-2797
jferiancek@mnpower.com

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

Communities Affected: Tower, Soudan

Major Customers:

Cause: Broken pin insulator on the 33 line between Winton Hydro and the St Croix Sub 88

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout HNS-237 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: HNS-237

Date Out:	03/29/15	Date In:	3/29/15
Time Out:	04:58	Time In:	07:23

Duration: 145 MINUTES

Number of Customers Affected: 1533

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: BROKEN INSULATOR AT REGULATORS.

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:	03/30/15	Date In:	03/30/15
Time Out:	08:40	Time In:	10:59

Duration: 139 MINUTES

Number of Customers Affected: 2395

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: PLANNED OUTAGE ON 406 FEEDER, CREWS SWITCHED PART OF LOAD TO 451, OVERLOADED FEEDER TRIPPED OUT.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout TWN-2 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: TWN-2

Date Out:	04/18/15	Date In:	04/18/15
Time Out:	11:32	Time In:	13:15

Duration: 103 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: CREWS HAD TO TAKE OUTAGE TO REPAIR CROSSARM.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: VRG 311

Date Out:	4/19/2015	Date In:	4/19/2015
Time Out:	5:15am	Time In:	9:50 am

Duration: Partial back in at 7:02 am

Number of Customers Affected: 593

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

For follow-up information or questions, contact: Stefanie Hayes, OCC

Communities Affected: Eveleth, Cherry, Iron

Major Customers: na

Cause: Bad insulator & lightning arrestor

Follow-Up: na

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: FCS 214

Date Out:	5/10/15	Date In:	5/10/15
Time Out:	6:21 pm	Time In:	7:54pm

Duration: 1 hour, 33 minutes

Number of Customers Affected: 1788

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

For follow-up information or questions, contact: Stefanie Hayes, OCC

Communities Affected: Hermantown, Canosia

Major Customers: na

Cause: 2 cutouts failed on transformer bank

Follow-Up: na

Form No. 6102 Rev. 7/10

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

Distribution System Status Outage Notification

Feeder/Bus #: CHL-1

Date Out:	05/13/15	Date In:	05/13/15
Time Out:	03:57	Time In:	05:20

Duration: 83 Minutes

Number of Customers Affected: 914

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: N/A

Cause: Unknown; recloser opened at sub.

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:	05/18/15	Date In:	05/18/15
Time Out:	5:18 PM	Time In:	6:55 PM

Duration: 1 hr 13 min

Number of Customers Affected: 728

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, Pengilly, Nashwauk, Marble, Calumet.

Major Customers:

Cause:

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: FRR-276

Date Out:	05/27/2015	Date In:	05/27/2015
Time Out:	11:02am	Time In:	12:25am

Duration: 1hr 23mins

Number of Customers Affected: 533

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

For follow-up information or questions, contact: Stefanie Hayes, OCC

Communities Affected: Lakewood

Major Customers: na

Cause: Tree fell on a wire at the intersection of Greenwood Rd, and Pine Rd.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: VRG-303

Date Out:	06/20/2015	Date In:	06/20/2015
Time Out:	12:48PM	Time In:	15:12

Duration: Unknown

Number of Customers Affected: 2514

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

For follow-up information or questions, contact: Stefanie Hayes, OCC

Communities Affected: Eveleth

Major Customers: United Taconite (Thunderbird Mine)

Cause: S Phase of the 39 Transmission Line fell onto the 303 Feeder.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: BAR-6421

Date Out:	06/22/2015	Date In:	06/22/2015
Time Out:	3:46PM	Time In:	16:50

Duration: 1hr 4minutes

Number of Customers Affected: 859

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

For follow-up information or questions, contact: Stefanie Hayes, OCC

Communities Affected: Barnum

Major Customers: na

Cause: Weather

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: DEN-6431

Date Out:	06/22/2015	Date In:	6/22/2015
Time Out:	16:01	Time In:	17:40

Duration: 1hr 39minutes

Number of Customers Affected: 1057

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

For follow-up information or questions, contact: Stefanie Hayes, OCC

Communities Affected: Sandstone/Willow River

Major Customers: na

Cause: Unknown.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout SAN-452 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: SAN-452

Date Out:	06/22/15	Date In:	06/22/15
Time Out:	15:57	Time In:	19:45

Duration: 228 MINUTES

Number of Customers Affected: 1230

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: 59 LINE. STORMS IN AREA KNOCKED TREE ONTO FEEDER, EVERYONE EXCEPT SANDSTONE RESTORED AT 1648, SANDSTONE SWITCHD ONTO OLD SUB AT 1745.

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:	06/29/15	Date In:	06/29/15
Time Out:	11:09	Time In:	12:12

Duration: 63 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: TREE ON FEEDER BETWEEN SEVILLE RD 77 AND FAA APPROACH LIGHTING 77 SWITCHES.

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:	07/05/15	Date In:	07/05/15
Time Out:	8:50 PM	Time In:	10:56 PM

Duration: 2 HR 6 MIN

Number of Customers Affected: 1518

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: Pengilly, Nashwauk, Marble, Calumet.

Major Customers:

Cause: Weather

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: LSP-225 Feeder Lockout Outage Notice: First Notice

Distribution System Status Outage Notification

Feeder/Bus #: LSP-225

Date Out:	7/12/15	Date In:	7/12/15
Time Out:	06:35	Time In:	7:57

Duration: 1H 22M

Number of Customers Affected: 1815

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

Major Customers:

Cause: Transformer bank down.

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:	07/12/15	Date In:	07/12/15
Time Out:	12:00	Time In:	17:57

Duration: 457 MINUTES

Number of Customers Affected: 745

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: LIGHTNING.

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:	07/12/15	Date In:	07/13/15
Time Out:	17:05	Time In:	04:00

Duration: 855 MINUTES

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: STORMS IN AREA.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout BLD-511 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: BLD-511

Date Out:	07/12/15	Date In:	07/12/15
Time Out:	18:44	Time In:	20:49

Duration: 125 MINUTES

Number of Customers Affected: 638

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.

Major Customers:

Cause: STORMS IN AREA.

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:	07/12/15	Date In:	07/15/15
Time Out:	19:14	Time In:	09:15

Duration: 3721 MINUTES

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: STORMS IN AREA.

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:	07/12/15	Date In:	07/16/15
Time Out:	19:18	Time In:	03:16

Duration: 4798 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: GULL LAKE, NISSWA.

Major Customers:

Cause: STORMS IN AREA.

Follow-Up:

Form No. 6102 Rev. 7/10

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

Distribution System Status Outage Notification

Feeder/Bus #: NPS-1

Date Out:	07/12/15	Date In:	07/14/15
Time Out:	19:18	Time In:	00:09

Duration: 1731 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: GULL LAKE, NISSWA.

Major Customers:

Cause: STORMS IN AREA.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: TWN-2

Date Out:	07/20/2015	Date In:	07/20/15
Time Out:	7:29AM	Time In:	9:15AM

Duration: 1hr 46min

Number of Customers Affected: 455

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

For follow-up information or questions, contact: Stefanie Hayes, OCC

Communities Affected: Tower

Major Customers: Tower School

Cause: Dig In

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:	7/23/15	Date In:	7/23/15
Time Out:	11:46	Time In:	13:20

Duration: 1.5 hours

Number of Customers Affected: 644 approx

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

For follow-up information or questions, contact: Stefanie Hayes, OCC

Communities Affected: Bovey, Marble, Taconite

Major Customers:

Cause: City of Taconite lawnmowers broke guy wire and caused pole and wire to fall down.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Cloquet 409 Feeder Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: 409

Date Out:	7/29/15	Date In:	7/29/15
Time Out:	02:34	Time In:	05:00

Duration: 2H 26M

Number of Customers Affected: 3000 approx

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, Esko

Major Customers:

Cause: Feeder Lockout W/ Unknown Cause

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Long Prairie Outage Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: GGR-1

Date Out:	8/1/15	Date In:	8/1/15
Time Out:	11:53	Time In:	14:30

Duration: 2H 37M

Number of Customers Affected: 554

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: Long Prairie

Major Customers: CentraCare Health/Hospital

Cause: Possible GGR substaion failure (will be tested)

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: FIF-260

Date Out:	08/14/2015	Date In:	8/14/2015
Time Out:	6:29pm	Time In:	8:51PM

Duration: 2hr 22mins

Number of Customers Affected: 975

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: Canal Park in Duluth

Major Customers: N/A

Cause: UG Primary failed.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: FRR-275 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: FRR-275

Date Out:	8/31/15	Date In:	9/1/15
Time Out:	9:34 PM	Time In:	2:02 AM

Duration: 268 minutes

Number of Customers Affected: 859

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: Lakewood, Normanna, and North Shore areas of Duluth

Major Customers:

Cause: Trees took line down at 5922 N. Tischer Rd

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: LFW-1

Date Out:	09/18/2015	Date In:	09/19/2015
Time Out:	10:43pm	Time In:	04:23AM

Duration: 5hrs 40min

Number of Customers Affected: 923

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 Side of Little Falls

Major Customers: N/A

Cause: Regulator was intermittent, caused the neutral to burn up and the recloser to lock out.

Follow-Up: 9/19/15: Revised previous report Customer Affected count from 915 to 923.

Form No. 6102 Rev. 7/10

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

Distribution System Status Outage Notification

Feeder/Bus #: GGR-1

Date Out:	10/11/15	Date In:	10/11/15
Time Out:	20:14	Time In:	23:00

Duration: 106 MINUTES

Number of Customers Affected: 952 CUSTOMERS

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: Long Prairie

Major Customers: Midway Gas, Camphill Wil MC Inc

Cause: High wind in area.

Follow-Up: Partial restore at 2135, held for a moment, then fuse failed. Another partial restore at 22:10 restored all customers south of Hwy 71.

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: DEN-6431

Date Out:	12/29/2015	Date In:	12/29/15
Time Out:	12:36 am	Time In:	02:26 am

Duration: N/A

Number of Customers Affected: 1127

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: Sturgeon Lake, Willow River and Moose Lake MN

Major Customers: N/A

Cause: 59 Line locked out due to tree

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout

Outage Notice: First Notice

Distribution System Status Outage Notification

Feeder/Bus #: BAR-6421

Date Out:	12/29/2015	Date In:	12/29/2015
Time Out:	12:36 am	Time In:	03:04am

Duration: N/A

Number of Customers Affected: 890

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: Barnum and Moose Lake MN

Major Customers: N/A

Cause: 59 Line locked out due to tree.

Follow-Up: