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

April 1, 2014

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

Re: 2014 Safety, Reliability and Service Quality Standards Report
Docket No. E015/M-14-___

Dear Dr. Haar:

Minnesota Power hereby submits, via electronic filing, its 2014 Safety, Reliability and Service Quality Standards Report as required by Minn. Rules 7826.0100-2000 and Docket No E015/M-11-292. An Affidavit of Service in included.

Please contact me at the number provided above with any questions or concerns.

Yours truly,

Lori Hoyum

Before The
Minnesota Public Utilities Commission

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

Minnesota Power's
Safety, Reliability
and
Service Quality Standards Report
under
Minn. Rule 7826

April 1, 2014

STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

In the Matter of Minnesota Power's 2014 Annual Report Concerning Safety, Reliability, Service Quality, And Proposed Annual Reliability Standards	Docket No. E015/M-14-___

Minnesota Power submits this Report to the Minnesota Public Utilities Commission ("Commission") pursuant to Minn. Rules, Chapter 7826 and in compliance with the Commission's Order dated January 13, 2014 in Docket No. E015/M-13-254. 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 cost effective electric service to its unique customer base.

Minnesota Power serves approximately 143,000 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. These conditions contribute to Minnesota Power's comparatively low cost electricity. Minnesota Power is expected to remain a winter-peaking utility for the foreseeable future, as residential customers do not have the influence on overall demand seen with summer peaking utilities.

Minnesota Power balances its reliability goals against the need to leverage capital investments while efficiently managing its operating expenses. Minnesota Power believes that system reliability metrics are best compared over multiple years to identify statistically relevant trends. The 2013 storm excluded results for System Average Interruption Duration Indice ("SAIDI") and System Average Interruption Frequency Indice ("SAIFI") were 120.43 and 1.14.

In 2012 the comparable results were 89.75 and 0.94. These results exceed the 2013 SAIDI goal of 90.60 as well as the 2013 SAIFI goal of 0.99. While these statistics seem to be outliers in comparison with 2012, they are not out of the norm of ranges Minnesota Power has experienced on its system in the past seven years. As depicted in Figures 1 and 2 below, statistics demonstrate a trend of higher system reliability over the past several years.

The 2013 reliability statistics reflect a year of challenging weather related events that were significant enough to cause damage, but did not rise to the level to be classified as a major event, such as a large storm. A major event is excluded from the reliability statistical calculation based on the 2.5 beta method defined by the IEEE[1] Standard for Distribution Reliability. Many of Minnesota Power's outages were due to bad weather that resulted in trees falling into power lines. On the surface this would possibly call into question Minnesota Power's vegetation management practices, however upon further analysis, it was determined that the events were generally caused by very large trees being blown into lines from well outside of the vegetation management clearances.[2]

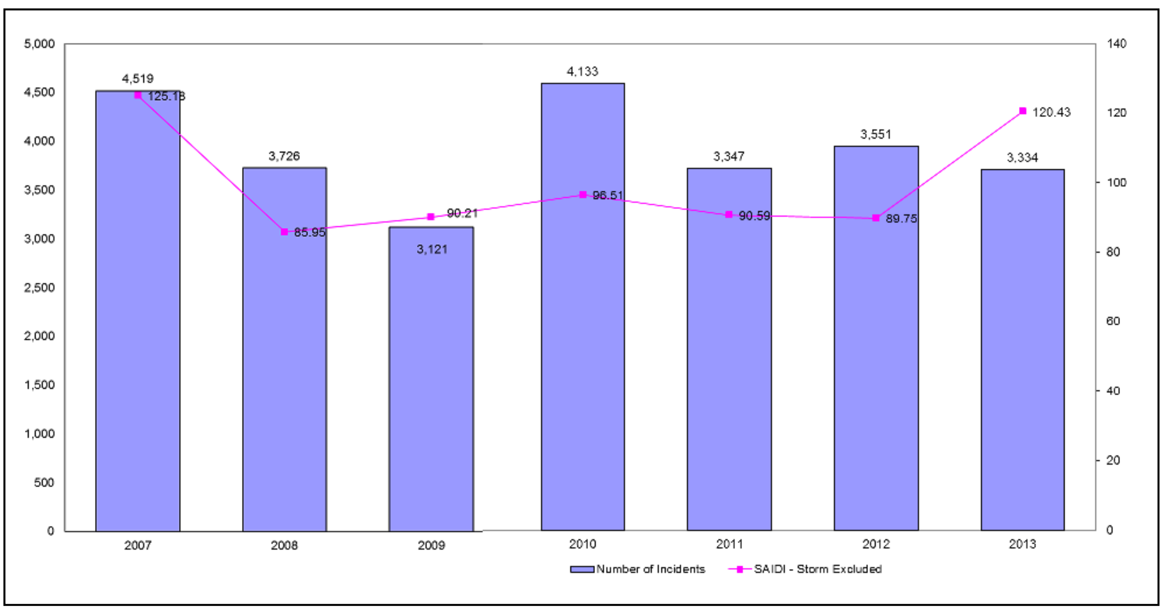

Figure 1 – 2007-2013 SAIDI Shown with Number of Incidents

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1 IEEE, pronounced "Eye-triple-E," stands for the Institute of Electrical and Electronics Engineers.
2 The particulars of these weather related events and other considerations are enumerated in Attachment A under 7826.0500 Reliability Reporting Requirements.

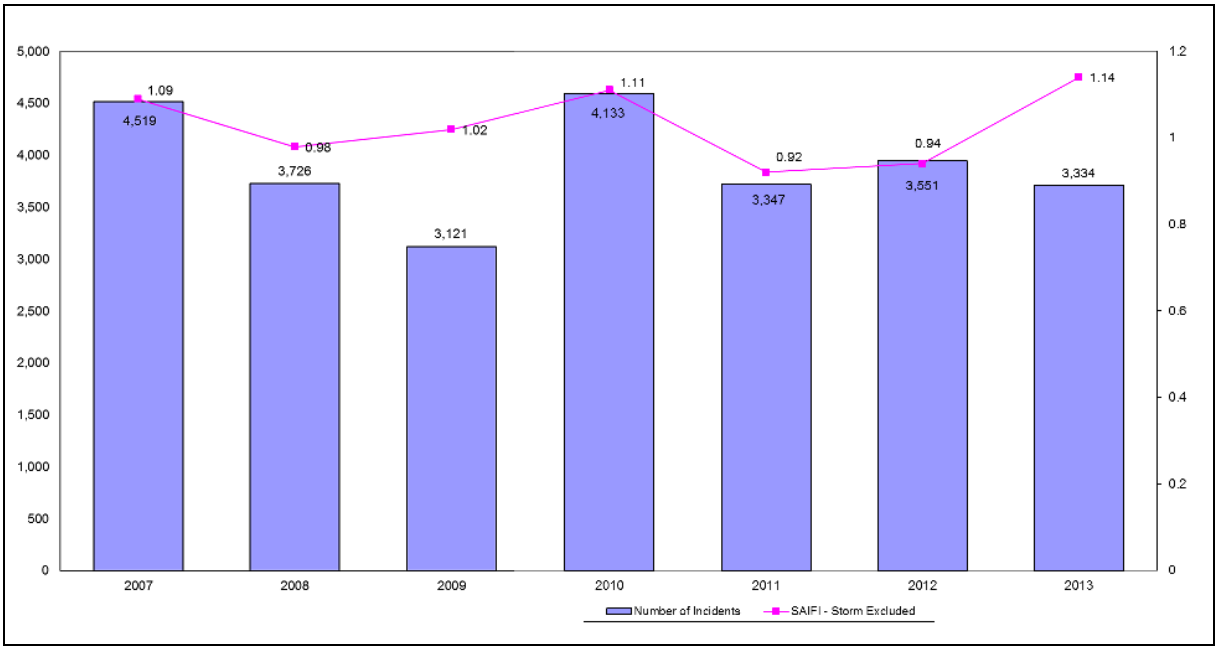

Figure 2 – 2007-2013 SAIFI Shown with Number of Incidents

Seemingly contrary to the Company's 2013 reliability statistics, Minnesota Power continues to experience reductions in the number of residential and commercial complaint calls recorded, as is depicted in the "Residential and Commercial Complaints" chart on Page 28. The Company cannot definitely know what is causing this decrease in customer complaints. However, enhanced customer communication projects such as the Outage Center, Outage Management System[3] ("OMS") integration, and others addressed later in this Report, are believed to be contributing factors.

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 Paper Insulated Lead Cable ("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.

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[3] A computer system used by operators of electric distribution systems to assist in restoration of power.

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 has now been 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.

There are approximately seven miles of the PILC cable to replace in the Duluth area. Before much of that replacement can be completed, however, a great deal of infrastructure work must be done. This infrastructure work includes placing and replacing manhole and duct systems for 5 feeders. Unfortunately, the ducts and manholes requiring replacement are largely in two-lane downtown streets which are not easily closed off. These streets provide much of the freight handling access for many of the downtown buildings as well as access to a substantial amount of downtown parking. The work will be challenging due to the accommodations that need to be made for all stakeholders affected by the project scope.

As stated previously, $2.03 million was spent in 2013. This spending was initiated by an overhead bypass feed for several PILC feeders. This allowed the Company to remove the absolute worst performing sections of cable from service. A 34 kV tap to the Fourth Ave station and transformer placements at this location were also completed in 2013. These will allow Minnesota Power to add new sources into the downtown to provide better back up for two of our PILC circuits.

The major cost for 2013 was a project to create cable and duct crossing under Mesaba Avenue (a major thoroughfare which separates the 15th Ave W substation from downtown Duluth). Issues with unmarked sewers, ledge rock and unseasonably harsh December weather slowed progress, but ductwork has been installed and cables have been installed. The Company is scheduled to spend another $1.15 million in 2014 on upgrades associated with the PILC.

Ultimately, Minnesota Power does not believe reliability statistics should continue to trend at levels experienced in 2013. Although the 2013 reliability statistics are not historically atypical, they strengthen the Company's commitment to providing a more reliable system over time. The Company continues utilizing best practices in regards to vegetation management and operational systems along with technology and system upgrades to help ensure future year's reliability statistics will reflect the resulting robustness of the system.

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 uses a planning horizon of ten years to optimize the use of its time, labor and capital. This planning process results in capital investments in the following six broad categories.

- CUSTOMER SERVICE EXTENSIONS - Extension of service to new customers. This fulfills The Company's obligation to serve and grow its customer base.
- SYSTEM IMPROVEMENTS - System improvements are the accumulation of all the projects completed to keep the system in compliance with regulations and codes. Issues which are addressed include, but are not limited to: system capacity, voltage performance and power quality.
- AGE RELATED REPLACEMENTS - These are typically end-of-life replacement projects. This equipment is still in service, but could be jeopardized by ice accumulations, high winds or additional decay.
- BULK SUBSTATION IMPROVEMENTS – Capital is spent on building or replacing distribution substations. Most often spent to create or upgrade substations to meet capacity needs.
- GOVERNMENT MANDATED RELOCATIONS - These are projects done to comply with government requests. Most often these projects are system relocations due to road construction which require vacating of or relocating within a road right of way.
- FACILITY/SUPPORT PROJECTS - These are projects which are necessary to the operation of the electrical system, but are not used for the generation, transmission or distribution of

electricity. They are typically facility projects, and often pertain to the upkeep of service buildings and properties.

Contained in Minnesota Power's ten-year plan are projects identified and developed for the purpose of maintaining and improving the overall system. It is the Company's construction roadmap and is written to not only address specific problems, but to also increase overall system performance and reliability. It is important to understand that this ten year plan may be modified to meet customer or business needs. 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.

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. Beginning in 2012, a substantial cost savings was realized when compared to previous years.

On Page 26 of this Report Minnesota Power has provided a graph of distribution vegetation budget versus actual vegetation expense. There is a variance in the budget versus spend categories equaling approximately $1 million. This gap in the budget stems partially from the need for the Company to reprioritize a portion of the vegetation management work in 2013 and focus more on transmission lines. The transmission line refocus was necessary to meet the expectations outlined for NERC Facility Rating Alert compliance (discussed in detail on Pages 13, 14 and 15 of the Report). The variance is also due to the unseasonable cold/inclement weather and snow the service territory experienced late in 2013. Vegetation management stalls when inclement weather occurs and personnel cannot easily get out to portions of the distribution system. The table on Page 27 shows the Company's overall investment on both the distribution and transmission systems for vegetation management in 2013. This demonstrates that the Company will nonetheless remain on target with its overall six year spend plan for vegetation management and will work diligently in 2014 to achieve this goal.

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. 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 inspect attachments to the pole, as well as ground mounted equipment looking for potential problems. The line inspectors are given contact information that allows them to resolve issues requiring immediate response in the field.

IMPROVED CUSTOMER COMMUNICATION

Customer Care

Minnesota Power is currently working on implementing a new customer information system ("CIS"). The system is Customer Care and Billing ("CC&B") from Oracle with an anticipated implementation target of first quarter 2015. The Company is replacing a vintage 1994 mainframe green screen system that has served Minnesota Power and its customers well for twenty years. The new system will allow Minnesota Power the ability to greatly enhance and improve its current communication with customers while establishing industry best practices. A second phase to the system will provide the ability for functionality that would enhance current communication with customers. For example, it will feature an on-line portal for customers so that they will have the option to not only transact with Minnesota Power over the phone but also on-line.

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 bringing call standards in the Call Center to a new level.

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.

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 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. This provides Minnesota Power the capabilities of letting each caller know what problem is affecting their area as well as give them an estimate of the outage length. 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 incoming IVR data, information from the field, data from

Minnesota Power's Energy Management System[4] ("EMS") and the Geographic Information System[5] ("GIS") together. With data from these sources, the OMS is able to predict the location of the problem. Based on that information, the OMS predicts what 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.

Voltage Monitoring

For the last several years, Minnesota Power has been deploying voltage monitors on circuits that had historically been challenging to supervise. These monitors were put in place to allow real time checks of feeder voltage and also to report momentary operations. The installed equipment is produced by a company named Telemetrics. In 2011, the Company completed testing to prove that Telemetric data could be brought into the EMS, which ultimately brings the data to the OMS, giving dispatchers a more complete picture of conditions in the field. While a promising development for the future, the cost of upgrading the EMS further cannot be justified at this time due to other higher priority projects such as the PILC cable replacement.

Outage Monitoring

Minnesota Power unveiled a website based Outage Center in 2010 which facilitates the reporting and display of outage information. The Outage Center provides visitors with specific outage locations and also allows them to report outages or check the status of outages online. The Outage Center augments the IVR unit and obtains information directly from the OMS. Extensive precautions have been taken to ensure that customer information is not compromised. Great care was also taken in creating a map detailed enough for a customer to be able to recognize an event in their area without giving the exact location of the problem. In 2011, Minnesota Power introduced applications to allow customers to view the Outage Center on their Android, Blackberry and iPhone devices. Customers are able to now report outages as well as check on the status of outages from anywhere at any time.

[4]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".

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

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. This ultimately could result in a reduction of outage durations.

SMART GRID PROJECTS

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") Advanced Metering Infrastructure ("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. The OMS integration allows for real-time tracking and verification of customer outages based on messaging coming from metering endpoints in the field. These projects and other smart grid related projects, which focus on improvements in the areas of reliability and customer service, are discussed in greater detail in Minnesota Power's 2013 Smart Grid Report to be filed under Docket No. E999/CI-08-948 (and is included with this Report as Attachment B).

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[6], 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.

Distribution Automation

Currently, isolating problems and connecting alternate feeds is done manually. As part of Minnesota Power's SGIG pilot project, the Company has instituted a system to isolate and re configure the distribution feeders to reenergize and restore power to affected customers automatically. The concept behind this is that this automation will reduce large blocks of outage time on sections of a circuit not directly affected by an issue on the system. The fiber communications addition provided further communication redundancy between two critical substations in the Duluth area, along with providing situational awareness at the distribution feeder level. To date, the system has operated two times. During the second event in 2013, approximately 2,800 customers could have experienced an outage of up to several hours if upgrades to the system had not been made. As a result of the automation investments, approximately 70 percent of the effected customers were restored nearly instantaneously with only a momentary interruption of service. While the events showed how well the system is able to isolate a problem and reconfigure the distribution feeders to restore power to the remaining customers, the cost of investment in this technology is currently too great for a single annual event to make a reasonable value proposition for customers. However, if a more troublesome location were identified on Minnesota Power's system or in the future there is a reduction in the cost of the equipment, further application of the technology will be considered.

It is important to note that for more than 35 years, Minnesota Power has been making strategic investments into infrastructure and technologies to improve both the transmission and distribution systems. At times, Minnesota Power has taken a leadership role in the country with regard to these investments, such as the investment in one of the first utility-owned fiber optic

[6] 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. The Eastern Interconnection reaches from Central Canada Eastward to the Atlantic coast (excluding Québec), South to Florida, and back West to the foot of the Rockies (excluding most of Texas).

links in the country, which has subsequently led to the installation of hundreds of miles of fiber optic cable.

SYSTEM CONSTRUCTION AND ANIMAL PROTECTION

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

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. Unfortunately, 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.

NERC FACILITY RATINGS ALERT

On June 18, 2007 the Federal Energy Regulatory Commission ("FERC") granted the North American Electric Reliability Corporation ("NERC") the legal authority to enforce reliability standards with all users, owners, and operators of the bulk power system in the United States, and made compliance with those standards mandatory and enforceable with penalties.

NERC's role includes discovering, identifying, and providing information that is critical to ensuring the reliability of the bulk power system in North America. In order to effectively disseminate this information, NERC utilizes e-mail based "alerts" designed to provide concise, actionable information to the electricity industry. As defined in its Rules of Procedure, the NERC alerts are divided into three distinct levels as follows:

- Industry Advisory- Purely informational intended to alert registered entities to issues or potential problems. A response to NERC is not necessary.
- Recommendation to Industry- Recommended specific action be taken by registered entities. Requires a response from recipients as defined in the alert.
- Essential Action- Identify actions deemed to be "essential" to bulk power system reliability. Requires NERC Board of Trustees approval prior to issuance. Similar to recommendations, essential actions also require recipients to respond as defined in the alert.

On October 7, 2010, NERC issued a Recommendation to Industry for Consideration of Actual Field Conditions in Determination of Facility Ratings ("Recommendation"). Recipients of this Recommendation were to review the current Facility Ratings Methodology for their transmission lines to verify that the methodology used to determine facility ratings is based on actual field conditions. Line ratings depend on many limiting factors, including transmission facility placement, tower height, topographical profiles, and maintaining adequate conductor clearances (i.e., conductor-to-ground, conductor-to-conductor) under a variety of ambient weather and loading conditions.

Entities were to describe plans to complete an assessment, due to NERC by December 15, 2010, of their facilities to verify whether the actual field conditions conform to the entity's design tolerances in accordance with its Facility Ratings Methodology and to describe how and when all transmission lines will be assessed.

Within six months of the date of this Recommendation, each registered entity was to have identified and reported all transmission facilities where an entity determined that the existing conditions were different than the design condition of the facilities and what those differences were to the applicable Reliability Coordinators and Regional Entities. The Midwest Reliability

Organization ("MRO") is the Regional Entity for Minnesota Power and other Minnesota utilities. Lastly, the registered entity was to correct any issues identified in its assessment as expeditiously as possible, but no later than 24 months following the date of the Recommendation, or October 7, 2012. The NERC rapidly reconsidered the complexity of this task and modified the timeline for identification of facilities for which actual conditions may impact line ratings. Discrepancies for the highest-priority facilities with regard to bulk power system reliability were to be identified and reported to the applicable Regional Entity no later than December 31, 2011, medium priority facilities no later than December 31, 2012 and lowest priority facilities no later than December 31, 2013. Any discrepancies identified in the course of the evaluation were to be mitigated within one year.

Minnesota Power's 2013 progress on the NERC Facility Ratings Alert consisted of engineering and construction associated with the mitigation of discrepancies on medium priority lines as well as building and analyzing PLS-CADD[7] models for each of the low priority lines. Minnesota Power's medium priority lines include the 230 kV system and the +/- 250 kV high voltage direct current line which equal a total of 23 circuits and approximately 1,100 miles of transmission lines as reported to NERC. The evaluation of these lines, completed in early 2013, identified 239 discrepancies requiring physical mitigation. In most cases, physical mitigation for these discrepancies consisted of replacing existing structures with new, taller structures to increase conductor-to-ground clearance. Of the 239 discrepancies identified on medium priority lines, 150 were mitigated in 2013. For the 89 discrepancies remaining on 7 medium priority circuits, Minnesota Power requested and was granted an extension of the deadline for completion of mitigation to June 30, 2014. Construction is ongoing for these discrepancies.

Also in 2013, Minnesota Power continued to evaluate the remaining (low priority) lines. Minnesota Power's low priority lines include the 115 kV, 138 kV, and 161 kV systems, which equal a total of 102 circuits and over 1,400 miles as reported to NERC. PLS-CADD models were developed based on high-precision LiDAR[8] survey data acquired for each of the lines. The models were then meticulously analyzed to identify discrepancies. Most discrepancies were reported to the NERC in January 2014; however, Minnesota Power did receive an extension of

[7] Power Line Systems - Computer Aided Design and Drafting – an overhead power line design program
[8] LiDAR ("Light Detection and Ranging") is an active remote sensing technology that uses laser light to detect and measure surface features on the earth.

the reporting deadline to February 28, 2014, to allow for the completion of 23 low priority circuits that were not evaluated by January 15, 2014. Also in early 2014, many of Minnesota Power's low priority lines were de-rated (operational capacity was reduced) as part of the Company's plan for reducing the overall number of discrepancies requiring costly physical mitigation. Engineering is ongoing for the remaining discrepancies.

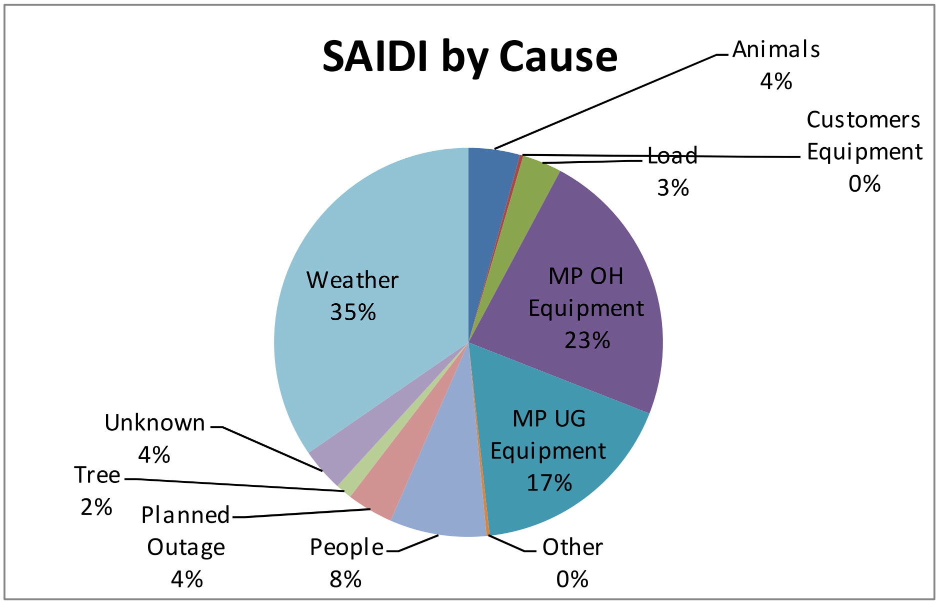
EMERGENCY PREPAREDNESS AND MUTUAL AID

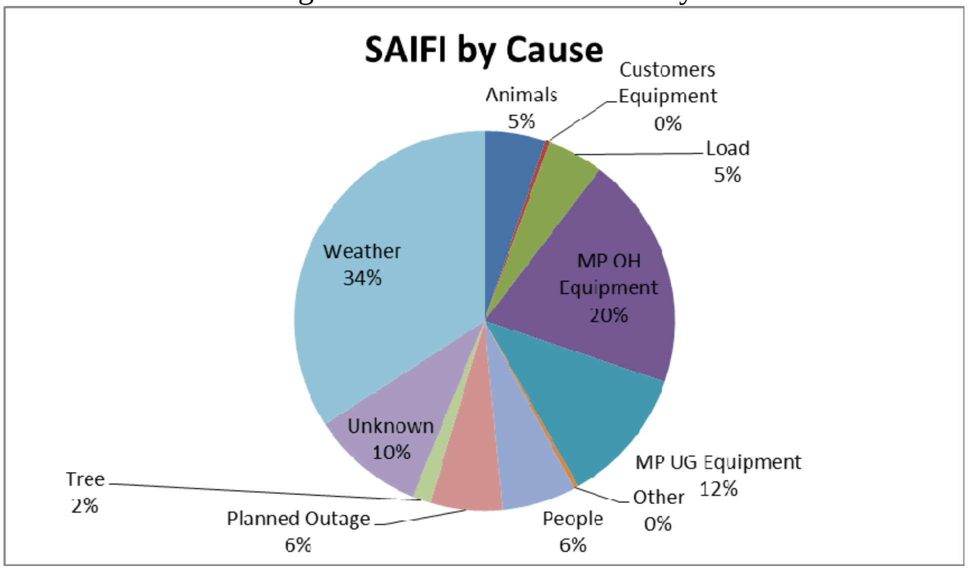
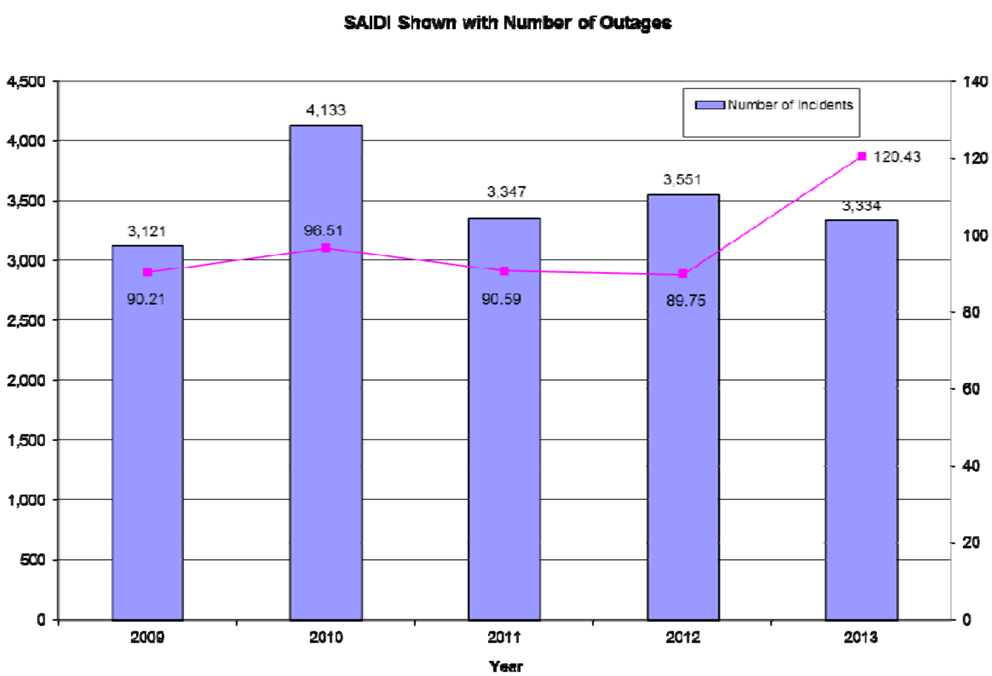
Mutual aid is the cooperation between utilities to provide labor and vehicles to a utility so profoundly affected by outages that it is unlikely they will have the ability to restore power to all of their customers within four to seven days. A robust protocol has been developed between the Midwest Mutual 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.

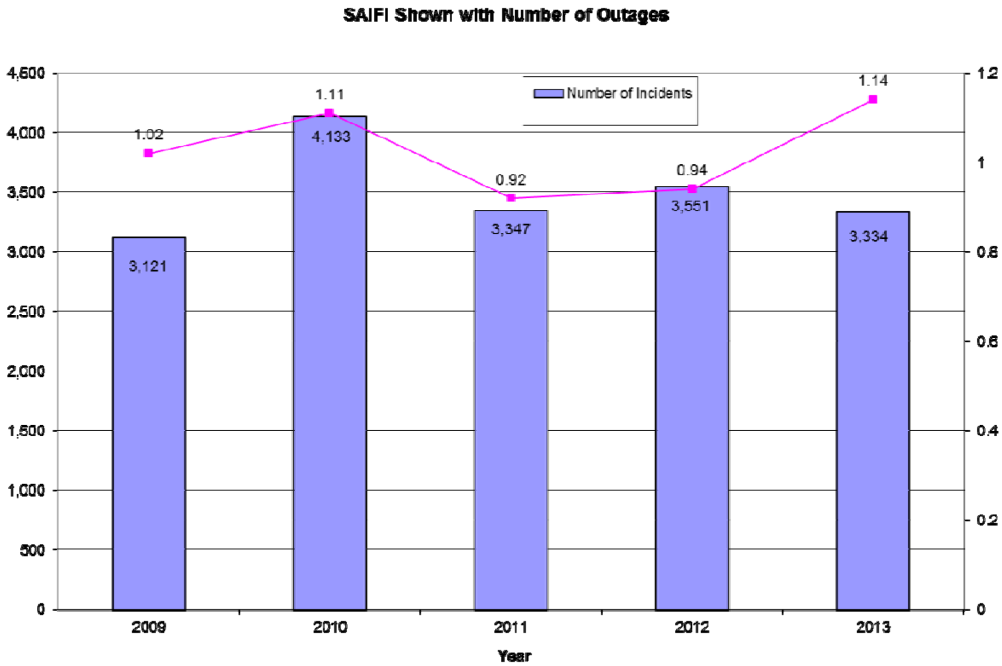
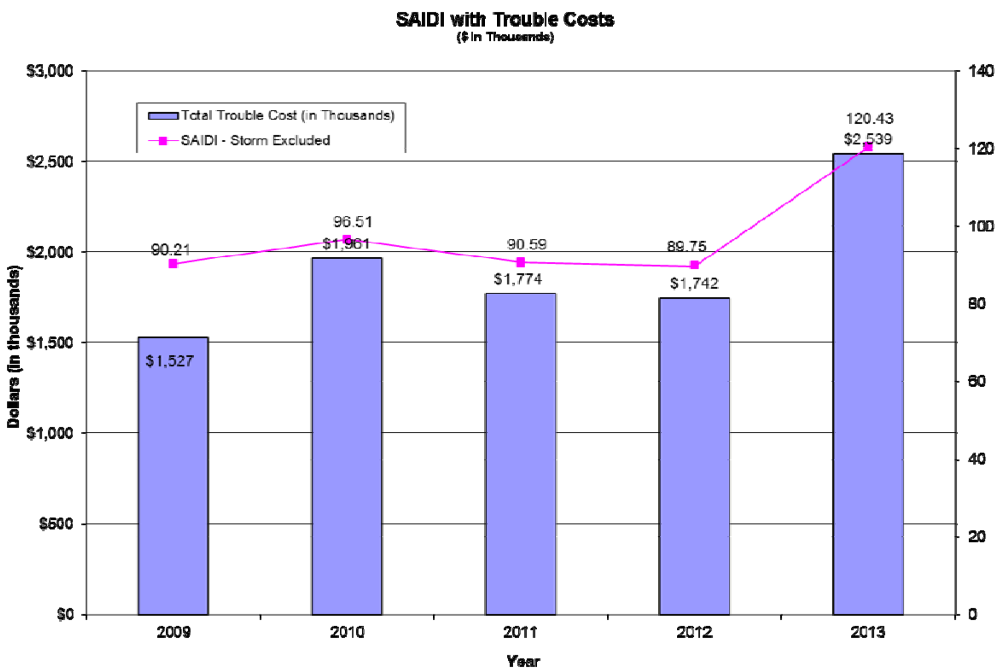
The Mutual Aid effort is done at cost for the affected utility. Minnesota Power is a proud member of the Midwest Mutual Aid group and responded to several requests for mutual aid in 2013. Minnesota Power responded to these requests for Mutual Aid in Sioux Falls, South Dakota, and Red Wing and Minneapolis, Minnesota. In the event of a major customer service disruption event (e.g. ice storm, tornado) within its service territory, Minnesota Power is confident industry assistance is only a conference call away.

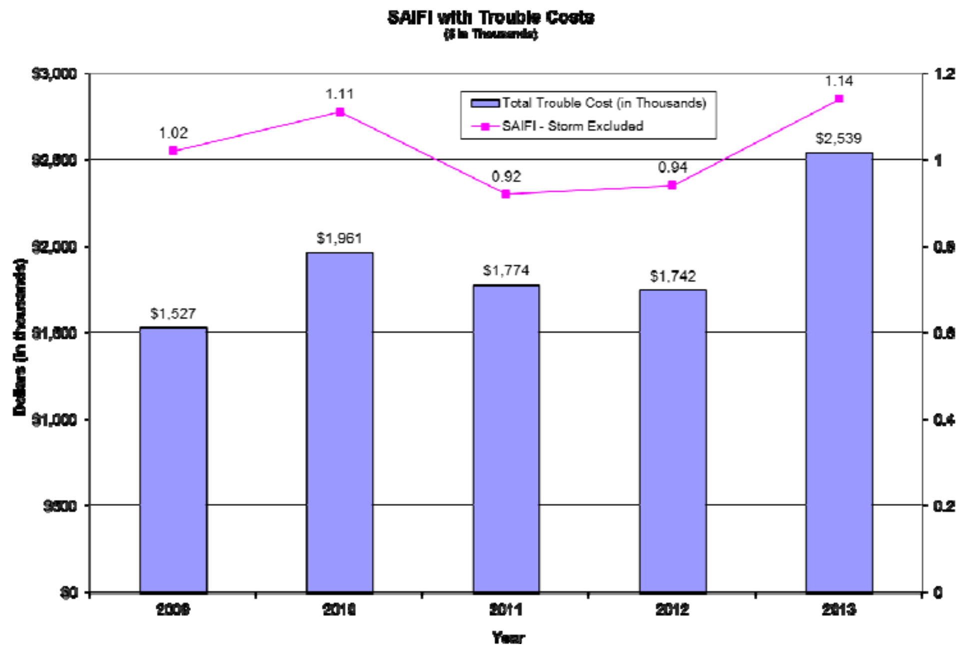
RELIABILITY COST MATRIX

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.

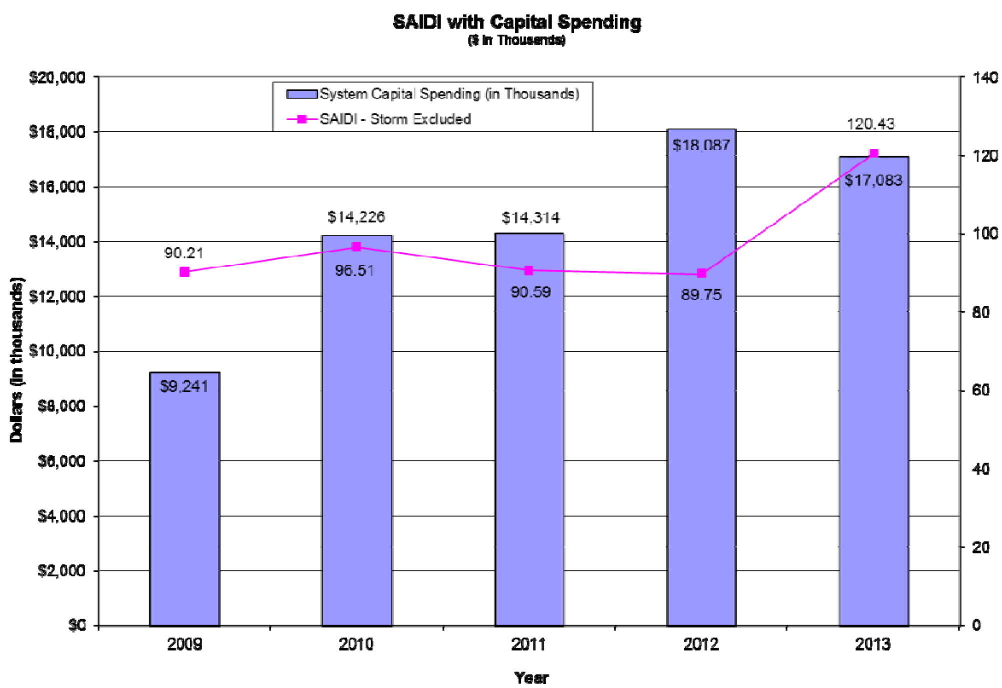
Percentage of Contribution to SAIDI by Cause 	This chart shows the percentage of Company SAIDI reported by each of the identified causes. OH – Overhead UG – Underground

Percentage of Contribution to SAIFI by Cause 	This chart shows the percentage of Company SAIFI reported by each of the identified causes. OH – Overhead UG – Underground
	This chart presents the history of SAIDI against Minnesota Power's historic number of outages.

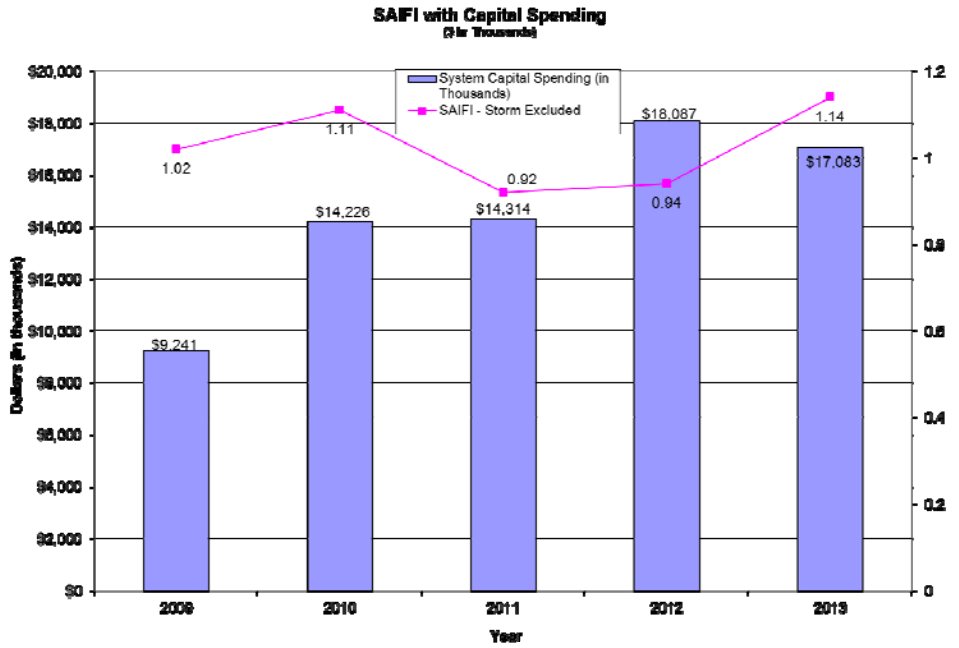
	This chart presents the history of SAIFI against Minnesota Power's historic number of outages.
	This chart shows historic SAIDI with operation & maintenance dollars spent on trouble calls. (This is unplanned work done without the replacement of capital assets.)



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



This chart shows historic SAIDI compared to capital dollars spent on distribituion system maintenance and upgrade. (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 historic SAIFI compared to capital dollars invested on distribution system maintenance and upgrade. (This is generally planned work done to address the six catergories presented at the beginning of this section.)

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 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 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[9]. 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 2013 has been provided in the summary table on Page 26.

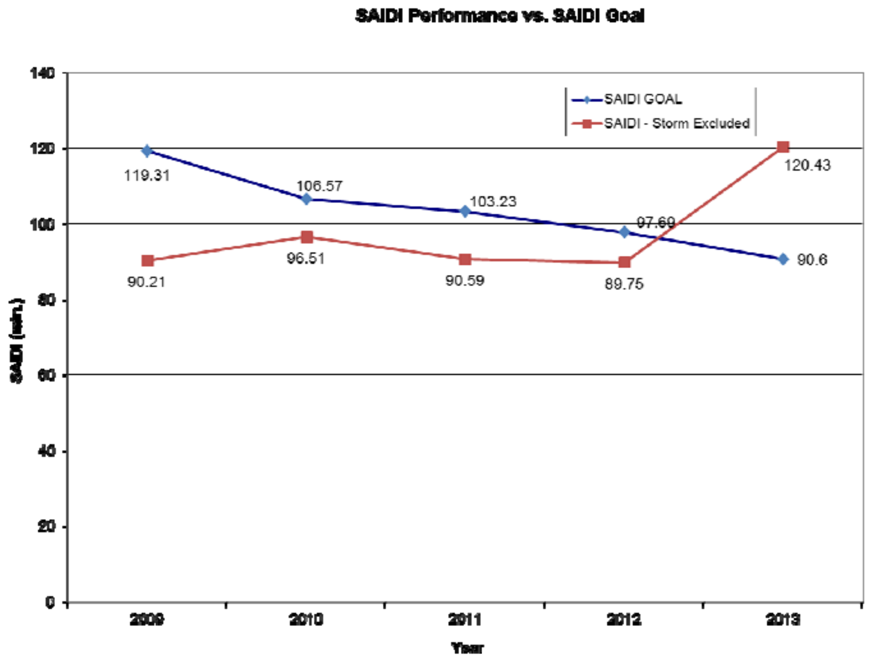
[9] Supervisory Control and Data Acquisition "SCADA" A system of remote control and telemetry used to monitor and control the electrical system.

MINNESOTA POWER 2013 SUMMARY GRAPH AND SYSTEM MAPS

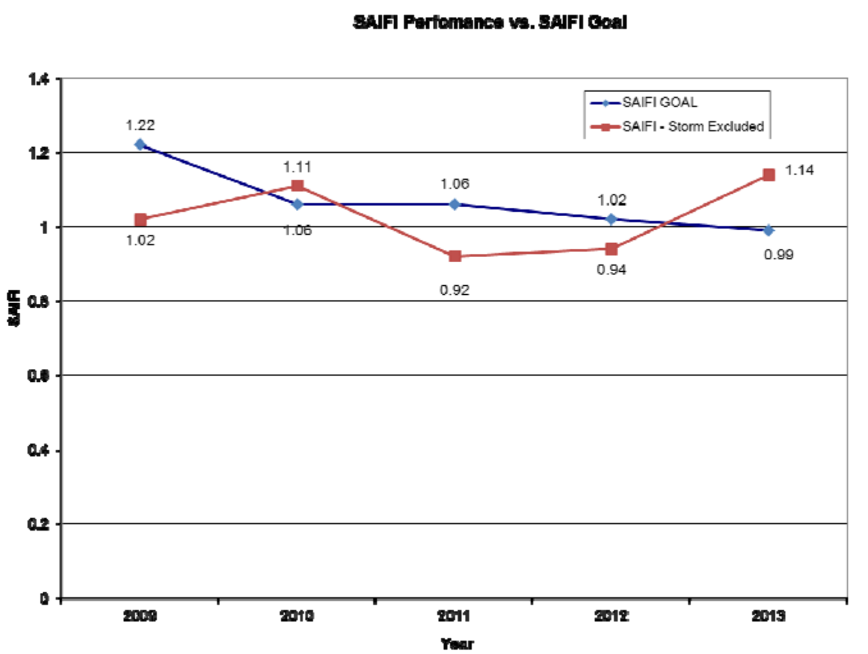
Minnesota Power is committed to maintaining safe, reliable and cost effective electricity service. Minnesota Power strives to provide the quality of service customers require. Further details on 2013 performance results are contained in the remaining pages of this report beginning with graphs of the safety, reliability and service quality issues which impact Minnesota Power's customers. Each graph contains a brief explanation of the indices. The graphs shown are:

- SAIDI Performance vs. SAIDI Goal
- SAIFI Performance vs. SAIFI Goal
- 5 yr. Historic SAIDI and SAIFI
- 5 yr. Historic CAIDI Values
- MAIFI – Momentary Average Interruption Frequency Indices
- Distribution Vegetation Management Budget vs. Actual Investment
- Total Company Vegetation Management Budget vs. Actual Investment
- Percentage of Calls Answered in 20 Seconds
- Customer Complaints
- Number of Lineworkers Available for Trouble Calls

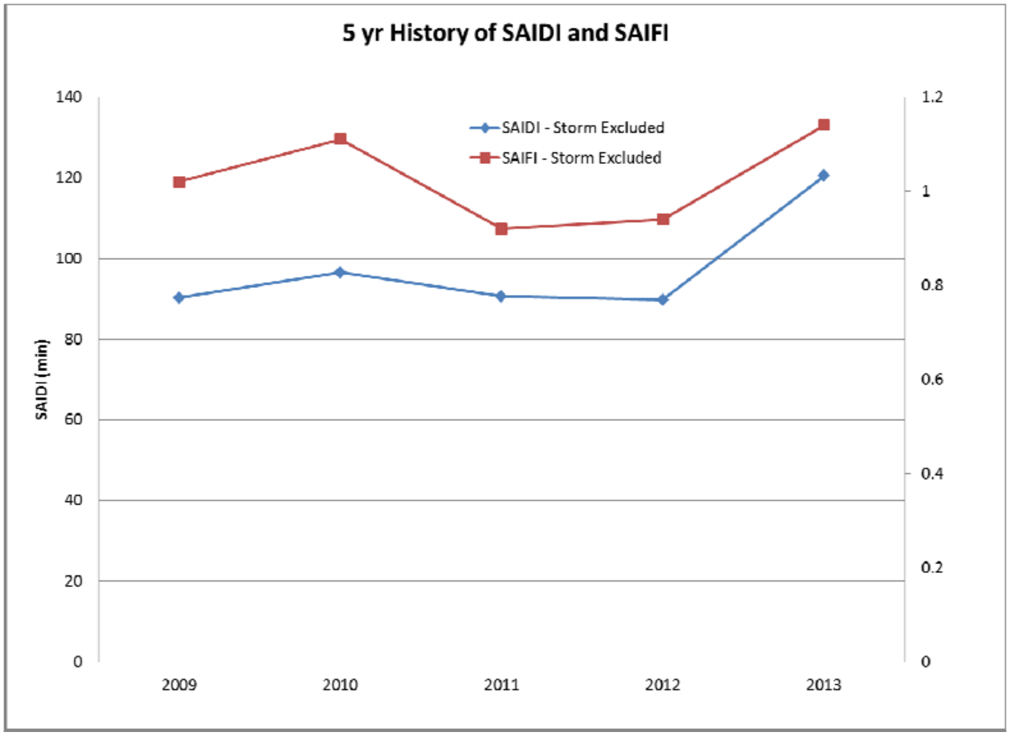
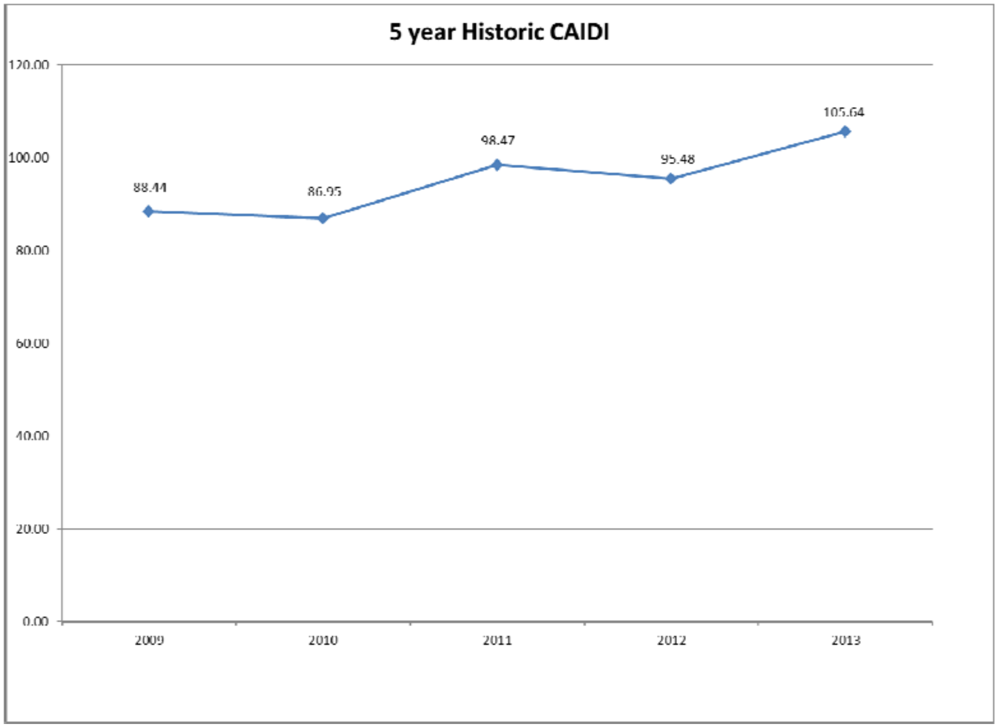
Current year details of this data are available within the full 2013 Report. Previous year details are available in their respective Reports.

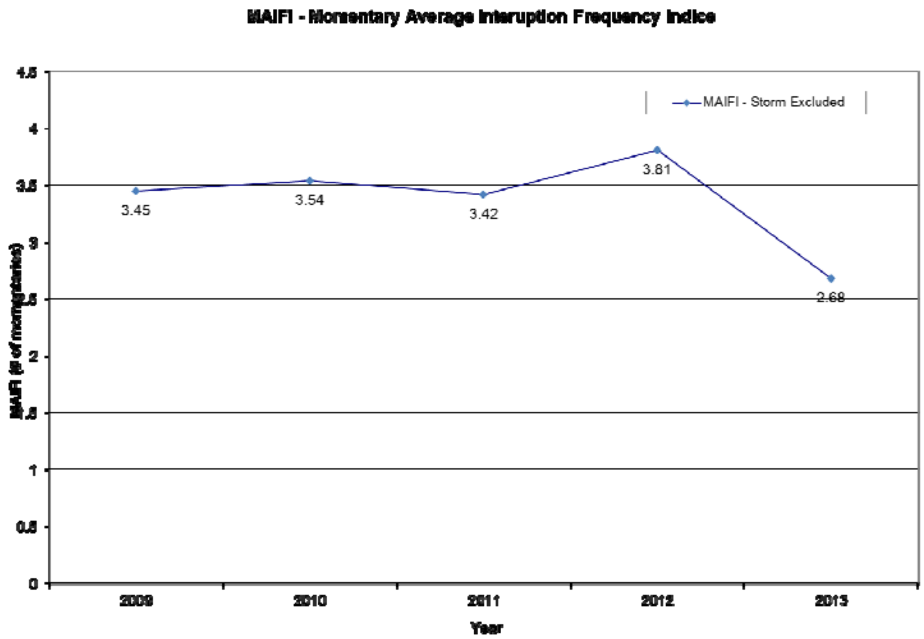


SAIDI is the System Average Interruption Duration Indice. SAIDI provides the duration, in minutes, of the average time customers are interrupted.



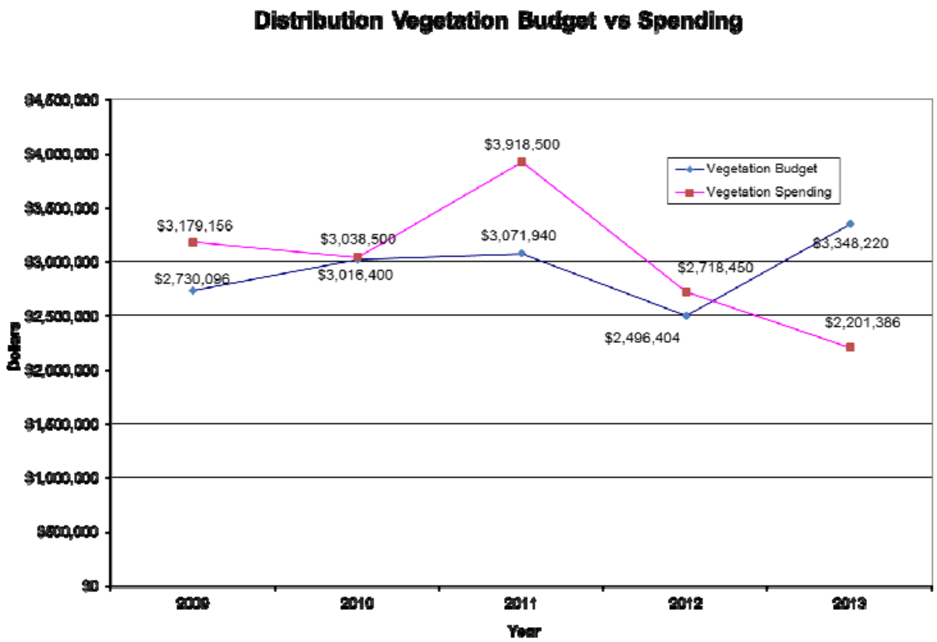
SAIFI is the System Average Interruption Frequency Indice. SAIFI provides the frequency of sustained power outages (longer than five minutes) experienced by the average customer.

 	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.

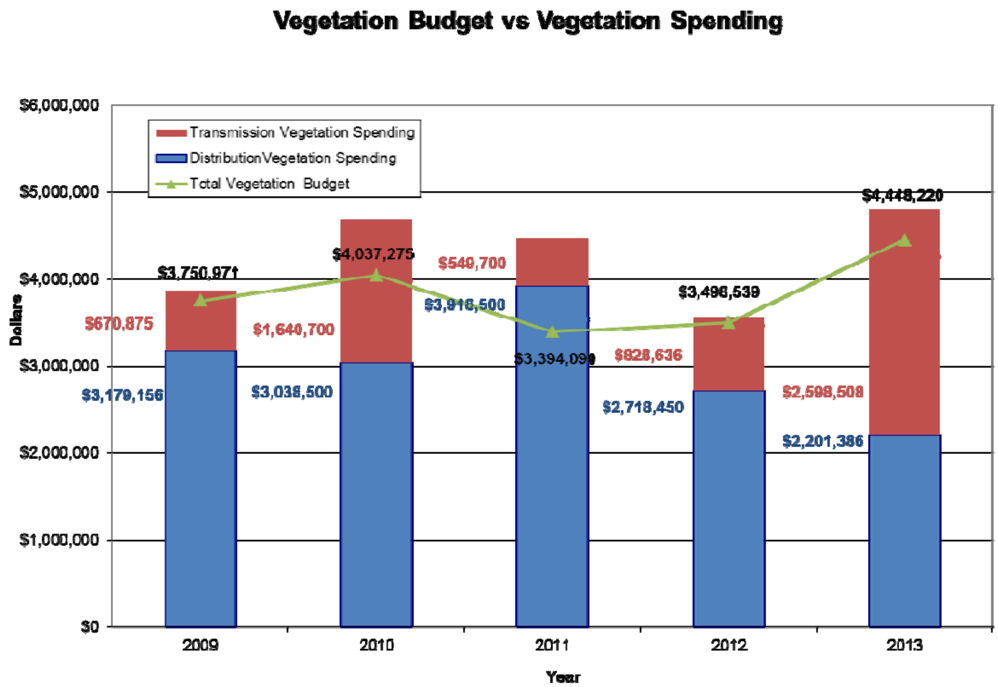
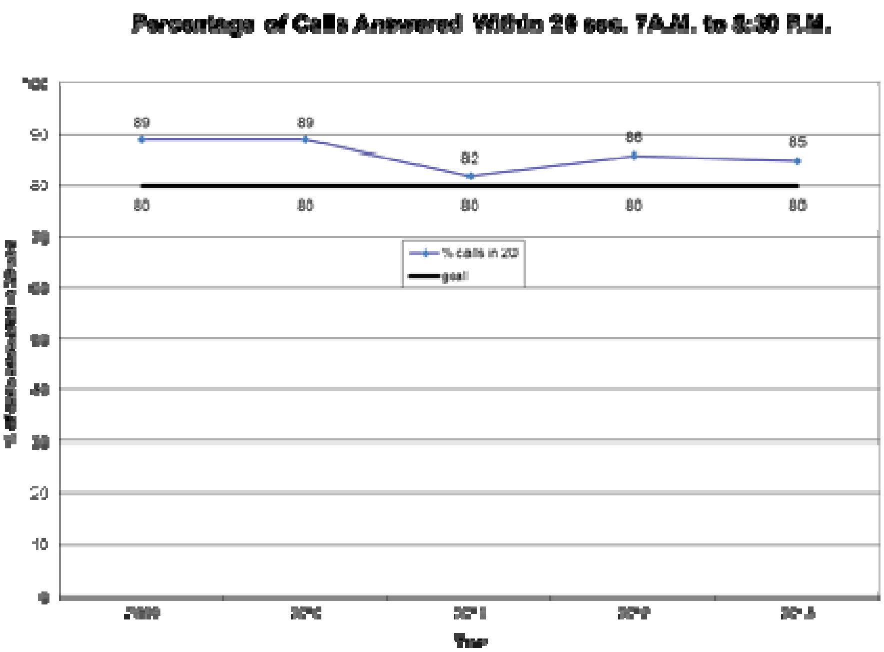


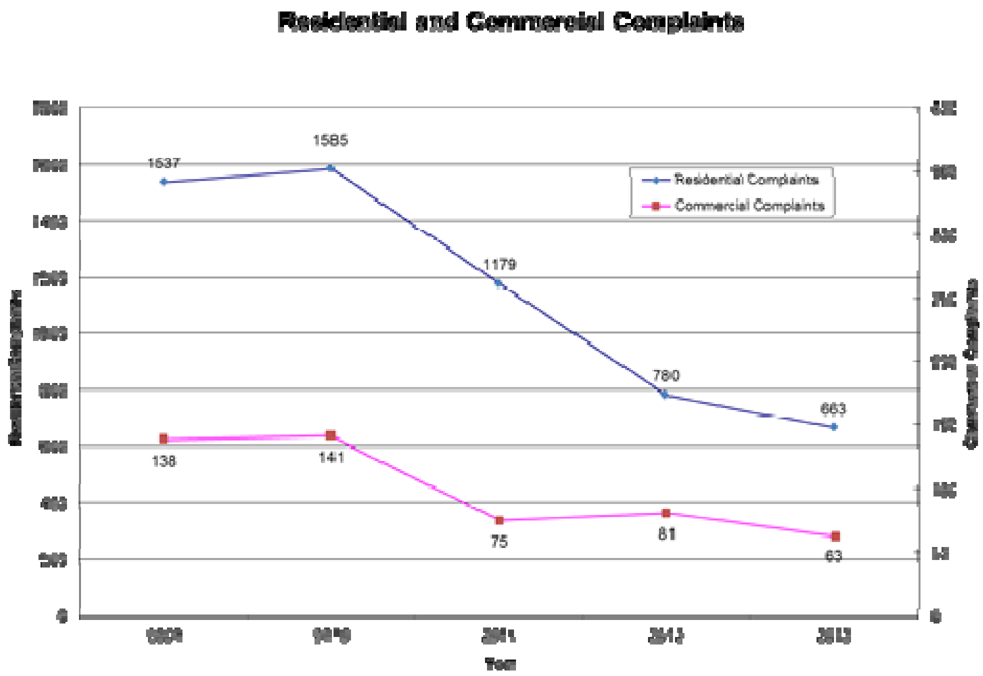
MAIFI* is the Momentary Average Interruption Frequency Indices.

*The MAIFI calculation is as complete as the current data collection allows.

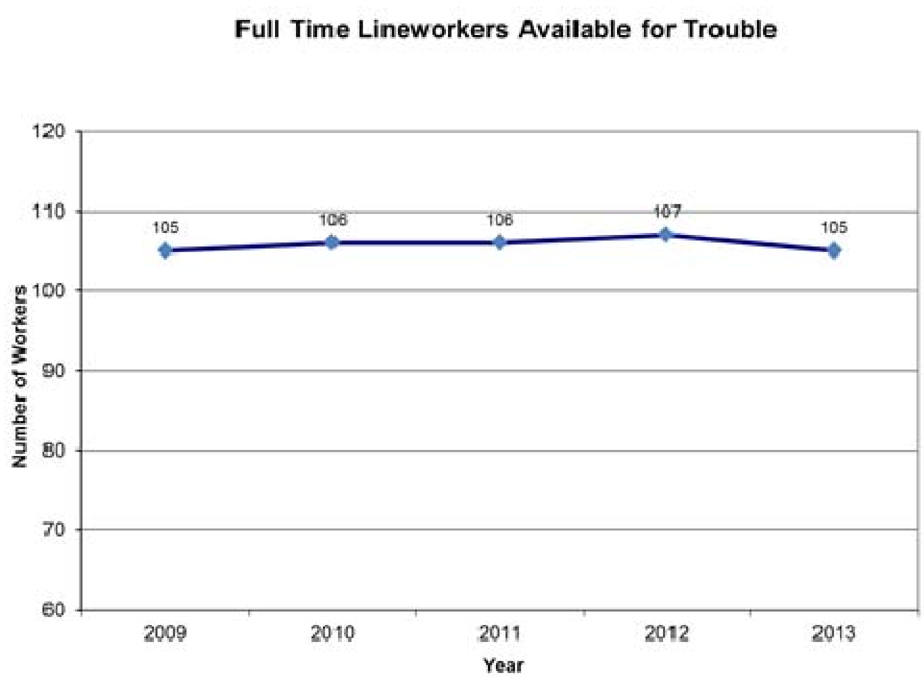


Vegetation management is performed on each distribution circuit on approximately a five year cycle. Successful vegetation management not only keeps vegetation off of the line, but also aids in keeping wildlife away from the line; making access to lines easier.

	Total vegetation budget and spending on the Minnesota Power's system for 2013.
	Answering a call in 20 seconds generally equates to three rings. The goal is 80 percent.



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



Minnesota Power had 105 full-time equivalent employees in Field Operations during 2013

There are four maps presented below. The first is a “Key Map” and shows the entire Minnesota Power service territory. Adjoining feeders are displayed in different colors to give an idea of how many circuits there are and to what degree they are divided. There are approximately 300 circuits in the Minnesota Power distribution system. Due to space limitation, the feeders are not shown at optimal resolution. The three maps following the “Key Map” are three separate maps which show in minutes how much SAIDI each feeder has contributed to the overall company SAIDI. They are broken up geographically to make them easier to read.

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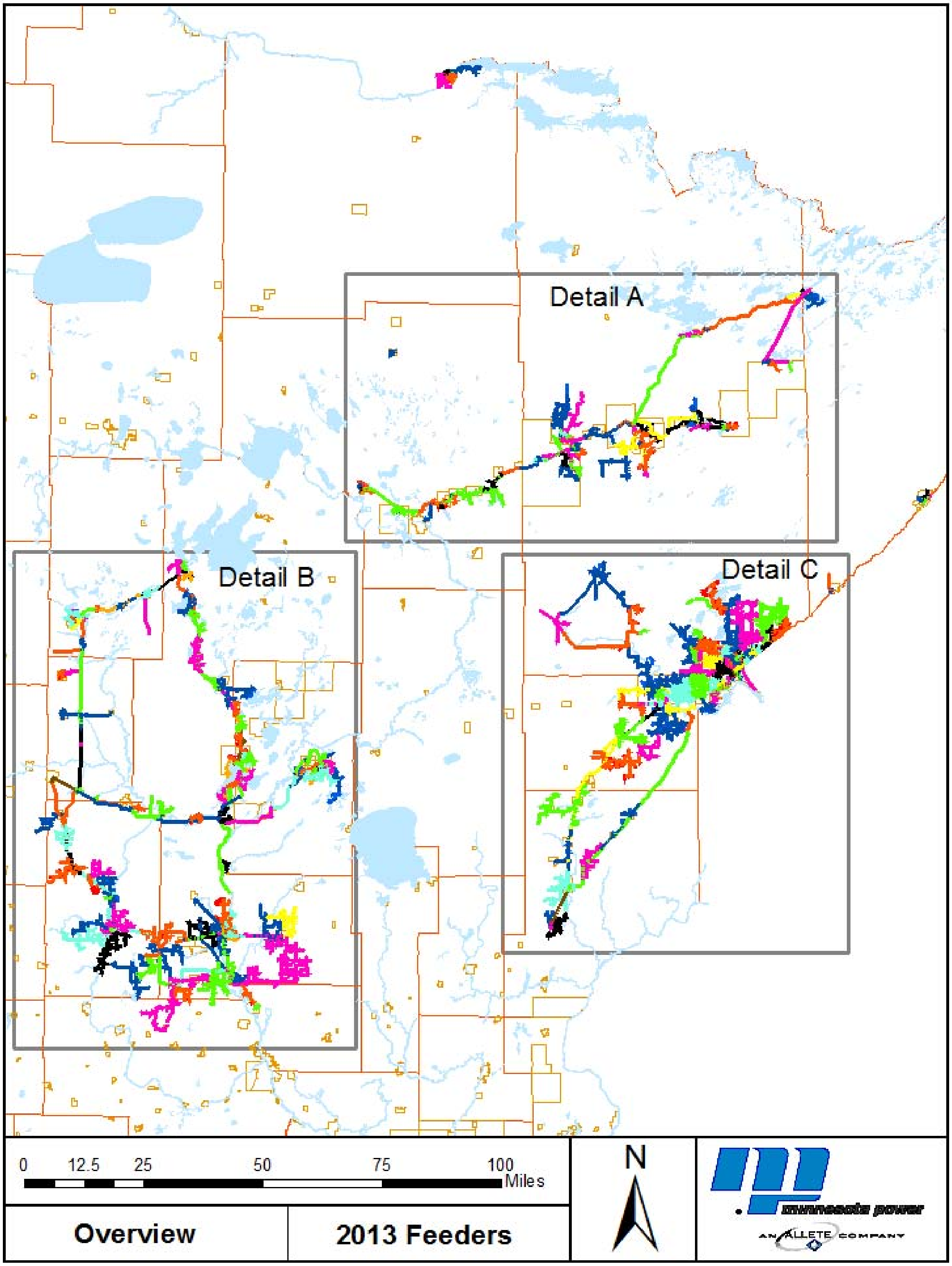
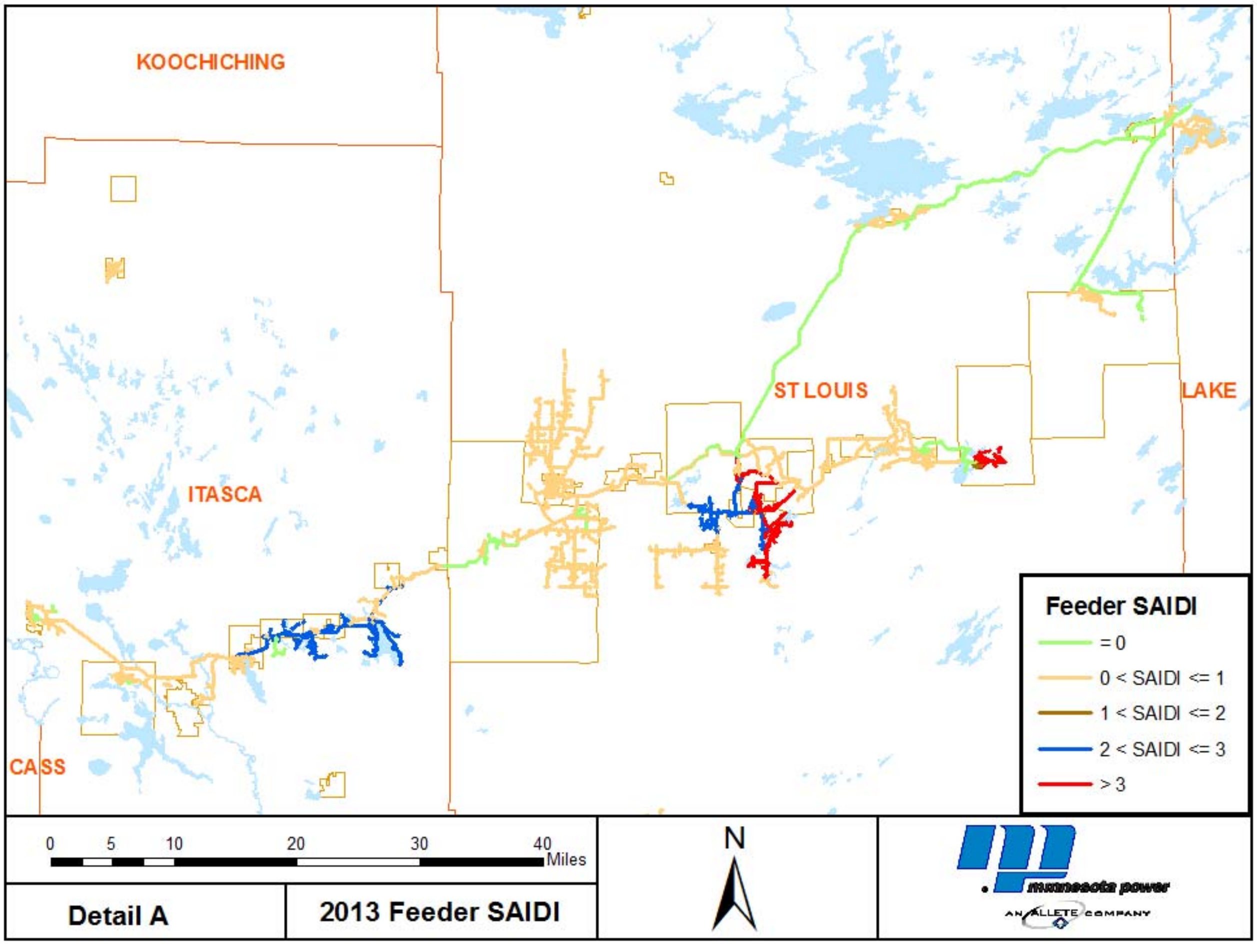
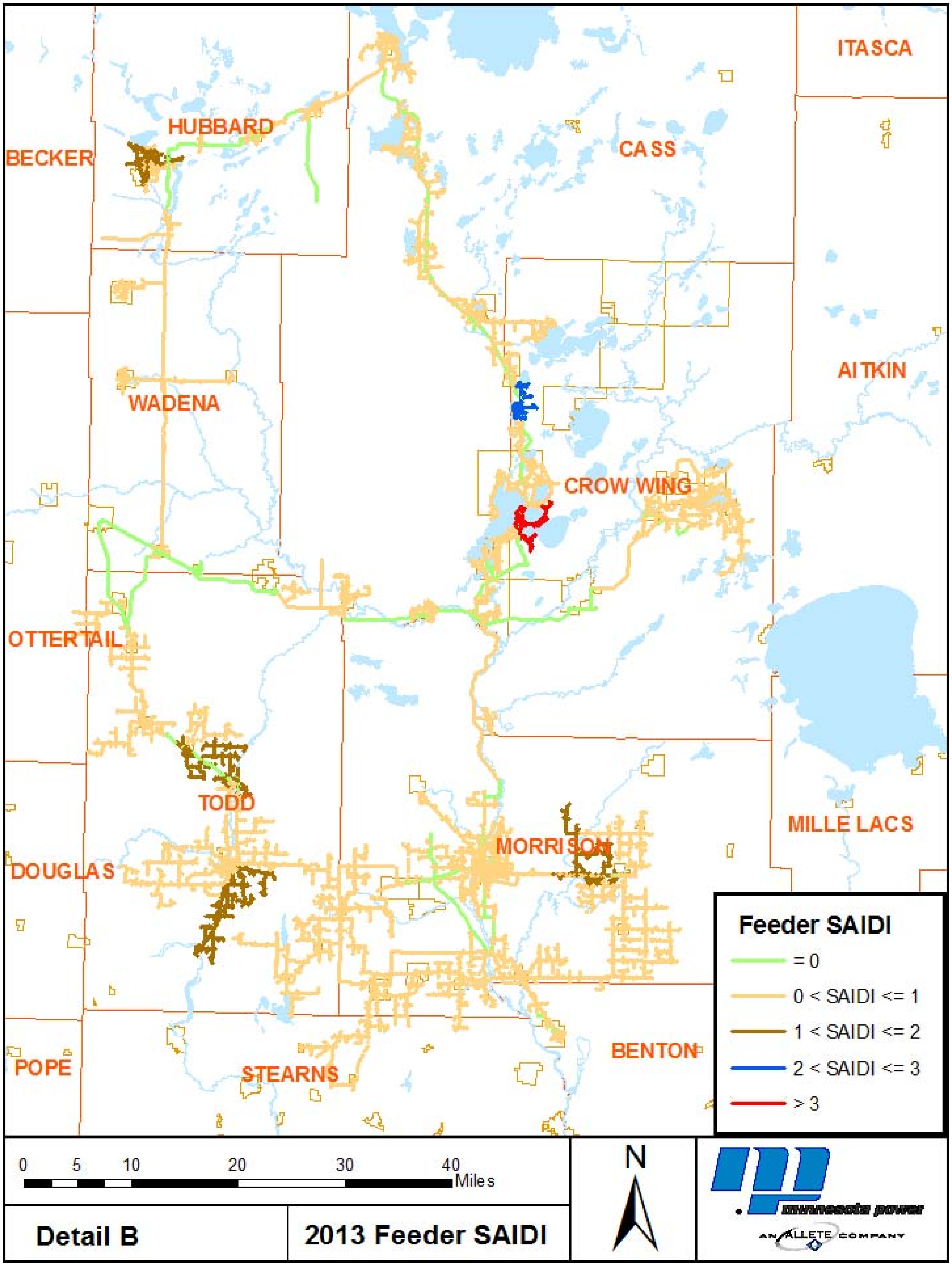
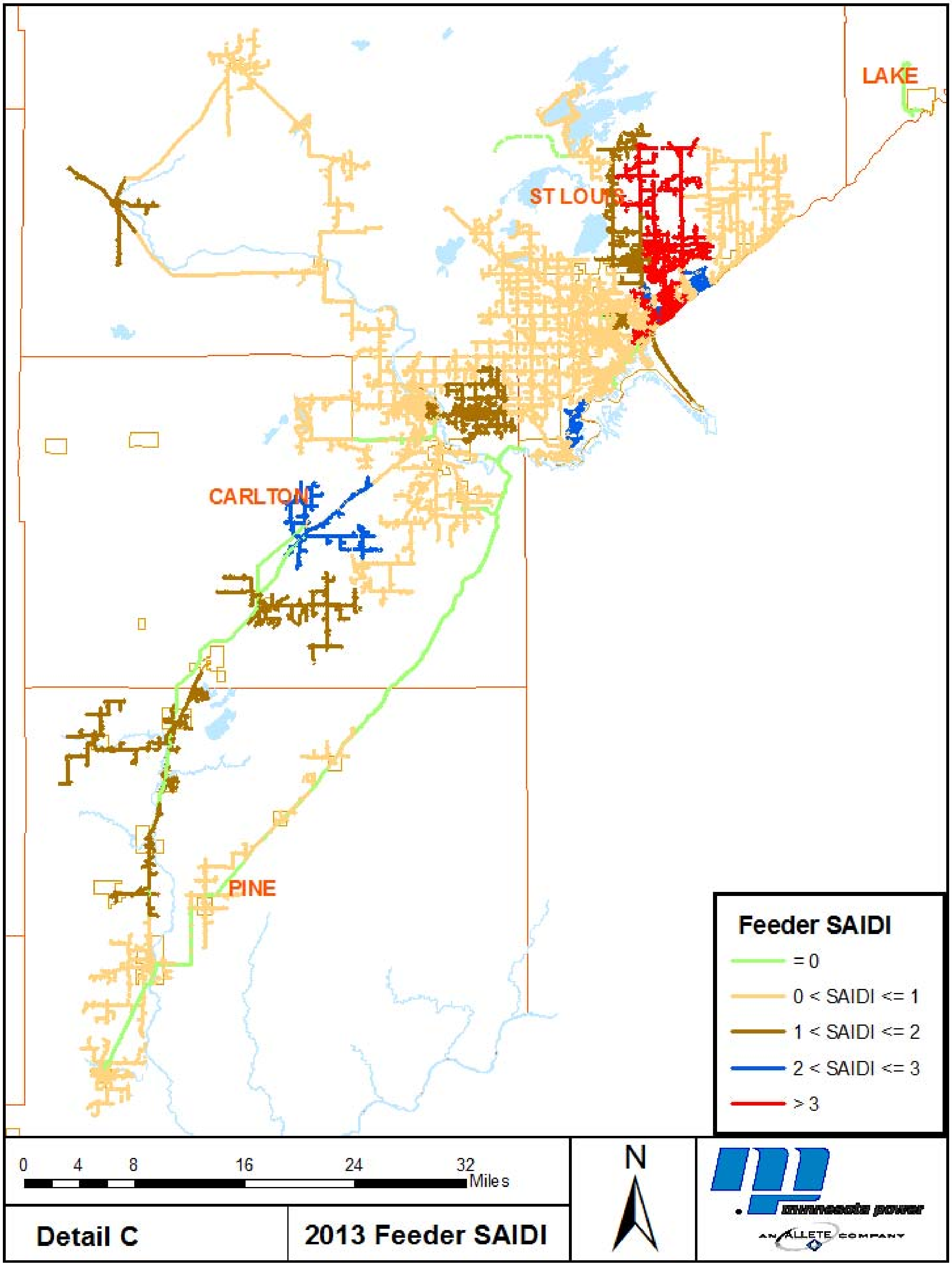

Detail A
Detail B
Detail C
0
12.5
25
50
75
100
Miles
N
minnesota power
AN ALLETE COMPANY
Overview
2013 Feeders


KOOCHICHING
ITASCA
ST LOUIS
LAKE
CASS
Feeder SAIDI
= 0
0 < SAIDI <= 1
1 < SAIDI <= 2
2 < SAIDI <= 3
> 3
0
5
10
20
30
40
Miles
N
Detail A
2013 Feeder SAIDI
minnesota power
AN ALLETE COMPANY


ITASCA
HUBBARD
BECKER
CASS
WADENA
AITKIN
CROW WING
OTTERTAIL
TODD
MORRISON
MILLE LACS
DOUGLAS
POPE
STEARNS
BENTON
Feeder SAIDI
= 0
0 < SAIDI <= 1
1 < SAIDI <= 2
2 < SAIDI <= 3
> 3
0 5 10 20 30 40
Miles
N
Detail B
2013 Feeder SAIDI
minnesota power
AN ALLETE COMPANY


LAKE
ST LOUIS
CARLTON
PINE
Feeder SAIDI
= 0
0 < SAIDI <= 1
1 < SAIDI <= 2
2 < SAIDI <= 3
> 3
0
4
8
16
24
32
Miles
N
minnesota power
AN ALLETE COMPANY
Detail C
2013 Feeder SAIDI

Minnesota Power's Safety, Reliability and Service Quality Standards Report-Annual Safety Reporting in compliance with Docket No. E-999/R-01-1671.

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	4	3	17

Number of Days

Total number of days of job transfer or restriction	Total number of days away from work
218	29

Injury and Illness Types

Injuries	Skin disorders	Respiratory conditions	Poisonings	All other illnesses
23	1	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 2013 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
1/1/2013	Norman, Jason and Betty	Work Procedure	$3,443.15	Reimbursement Made for Damages Incurred
1/2/2013	Sluka, Sarah (Ron)	Vehicle Damage	$4,110.81	Reimbursement Made for Damages Incurred
1/2/2013	Pylkka, Cory	Miscellaneous Equipment Failure	$2,815.74	Reimbursement Made for Damages Incurred
1/16/2013	Eld, Keith & Nicole	Work Procedure	$13,925.00	Reimbursement Made for Damages Incurred
1/28/2013	Page, Howard	Vehicle Damage	$1,962.36	Reimbursement Made for Damages Incurred
1/31/2013	Kucharski, Barry	Miscellaneous Equipment Failure	$4,942.06	Reimbursement Made for Damages Incurred
2/14/2013	Hart, Ryan	Miscellaneous Equipment Failure	$400.00	Reimbursement Made for Damages Incurred
2/14/2013	Barrett, Thelma	Miscellaneous Equipment Failure	$343.20	Reimbursement Made for Damages Incurred
2/14/2013	Knouse, John	Miscellaneous Equipment Failure	$310.11	Reimbursement Made for Damages Incurred
2/14/2013	East Hubbard County FD	Miscellaneous Equipment Failure	$451.71	Reimbursement Made for Damages Incurred
2/14/2013	Czaikowski, Thomas	Miscellaneous Equipment Failure	$860.79	Reimbursement Made for Damages Incurred
2/14/2013	Ferrie, Marilyn & Curt	Miscellaneous Equipment Failure	$600.50	Reimbursement Made for Damages Incurred
2/14/2013	Kietzman, Josh	Miscellaneous Equipment Failure	$2,283.41	Reimbursement Made for Damages Incurred
2/14/2013	Bonn, Charles	Miscellaneous Equipment Failure	$420.00	Reimbursement Made for Damages Incurred
2/14/2013	Savoy, Dennis & Shirley	Work Procedure	$893.75	Reimbursement Made for Damages Incurred
2/18/2013	Enterprise	Vehicle Damage	$1,590.50	Reimbursement Made for Damages Incurred
2/27/2013	Enterprise	Vehicle Damage	$1,283.70	Reimbursement Made for Damages Incurred
3/12/2013	Westover, Bob	Work Procedure	$1,834.80	Reimbursement Made for Damages Incurred
4/11/2013	Dobson, Roy	Work Procedure	$400.00	Reimbursement Made for Damages Incurred
5/17/2013	Enterprise	Vehicle Damage	$287.00	Reimbursement Made for Damages Incurred
6/4/2013	Shinkle, Lydia	Vehicle Damage	$1,639.22	Reimbursement Made for Damages Incurred
6/6/2013	Ohse, Madonna	Vehicle Damage	$1,299.56	Reimbursement Made for Damages Incurred
7/4/2013	Bonicatto, Bruce	Work Procedure	$191.31	Reimbursement Made for Damages Incurred
7/10/2013	Grandmas Restaurant	Miscellaneous Equipment Failure	$979.40	Reimbursement Made for Damages Incurred
8/8/2013	Mistretta, Roberta	Work Procedure	$20.00	Reimbursement Made for Damages Incurred
8/13/2013	Peternell, John	Miscellaneous Equipment Failure	$1,433.00	Reimbursement Made for Damages Incurred
8/15/2013	The Duluth Grand, LLC	Vehicle Damage	$5,806.73	Reimbursement Made for Damages Incurred
8/15/2013	Travelers Insurance (The Duluth Grand)	Vehicle Damage	$8,036.62	Reimbursement Made for Damages Incurred
9/9/2013	Barnum Public Schools	Miscellaneous Equipment Failure	$2,937.00	Reimbursement Made for Damages Incurred
9/19/2013	Kubec, Tim	Vehicle Damage	$1,558.58	Reimbursement Made for Damages Incurred
9/27/2013	Cloquet Electrical	Vehicle Damage	$336.09	Reimbursement Made for Damages Incurred
10/8/2013	Warren Wood	Work Procedure	$2,269.00	Reimbursement Made for Damages Incurred
10/25/2013	CenturyLink	Work Procedure	$1,512.17	Reimbursement Made for Damages Incurred
10/25/2013	Breezee, Cyndi	Work Procedure	$45.00	Reimbursement Made for Damages Incurred
10/27/2013	Enterprise	Vehicle Damage	$287.00	Reimbursement Made for Damages Incurred
11/20/2013	Enterprise	Vehicle Damage	$287.00	Reimbursement Made for Damages Incurred
Total Claims: 35		**Total Payments:**	$71,796.27	

RELIABILITY REPORTING REQUIREMENTS

7826.0500

The utility's SAIDI, SAIFI and CAIDI are calculated using the data excluded by the IEEE 2.5 beta method (data from major event days). Included are the causes of outages occurring on major event days, as well as the outage data using two different methods and detailed explanations of the differences. A major event is excluded based on the 2.5 beta method defined by the IEEE Standard for Distribution Reliability. The normalization process is designed to remove all outage records attributed to a specific, major event such as a large storm. Non-Major Event normalized means that all major events such as a wind storms, ice storms, etc, are included in the reliability calculations. Since there was one excluded event in 2013 these values are different than 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) **2013**	120.43

SAIDI calculated from Major Event Excluded data:

SAIDI (in minutes) **2013**	32.56

Major Event normalized using the IEEE 2.5 Beta method:

SAIDI (in minutes) **2013**	120.43

Non-Major Event normalized:

SAIDI (in minutes) **2013**	152.99

B.

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

SAIFI (# of outages) **2013**	1.14

SAIFI calculated from Major Event Excluded data:

SAIFI (# of outages) **2013**	0.10

Major Event normalized using the IEEE 2.5 Beta method:

SAIFI (# of outages) **2013**	1.14

Non-Major Event normalized:

SAIFI (# of outages) **2013**	1.24

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) **2013**	105.80

CAIDI calculated from Major Event Excluded data:

CAIDI (outage min/customer) **2013**	17.26

Major Event normalized using the IEEE 2.5 Beta method:

CAIDI (outage min/customer) **2013**	105.80

Non-Major Event normalized:

CAIDI (outage min/customer) **2013**	123.06

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

In 2013, there was one major event 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 (T_{med}) 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: T_{med} = exp (alpha + 2.5*beta). If any day in the next year has SAIDI greater than T_{med}, 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. There was one weather related major event excluded in 2013. There were two weather related major events, each spanning two days, excluded in 2012. 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.

It is important to note that Minnesota Power’s Geographic Information System mapping system was completed in 2004. This updated version shows all of the Company’s customers by electric continuity (feeders), whereas the older version was simply a drawing without the electric continuity. In the older version the margin of error for counting customers affected by an outage was much greater. The addition of electric continuity will assist the Reliability Engineer in accurately determining a true customer count for the purposes of calculating SAIDI, SAIFI, etc.

In addition to the GIS improvements noted above, Minnesota Power implemented GE's PowerOn as an OMS in 2007. Minnesota Power is committed to providing the personnel and financial resources necessary to continually improve reliability reporting and response to outages.

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.*

While Minnesota Power's system remained characteristically static throughout 2013, there was a substantial fluctuation in reliability statistics. Many of Minnesota Power's outages were due to weather events, but more specifically, were caused by wind blowing trees down and into power lines. On the surface this would possibly point to a deficit in vegetation management practices, yet at the end of the day it was determined that the events were generally caused by very large trees well outside of the vegetation management clearances. Also, 2013 brought a large turnover in the Company's line personnel. While great efforts were made to keep a consistent staff of lineworkers, it was challenging to train lineworkers as quickly as turnover was occurring. Minnesota Power saw approximately a 20 percent turnover of the department personnel in 2013.

Minnesota Power used the 2.5 Beta method for excluding storm related outages, which excluded one weather related major event in 2013

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.*

30 Line –

- On **April 18, 2013,** a broken insulator on 30 Line caused Virginia Substation's 30L breaker to lockout. The insulator was replaced and all customers were restored after 69 minutes. No further action is necessary.

33 Line –

- On **June 25, 2013,** a section of a Co-op distribution feeder being fed out of Great River Energy's ("GRE") Winton Substation had a conductor fall causing a misoperation of GRE's distribution equipment. This caused the breaker, 33L, at Minnesota Power's Winton Substation to lockout. The outage was isolated at the GRE substation and all Minnesota Power customers were restored after 71 minutes. No further action necessary.

42 Line –

- On **August 18, 2013,** a tree fell into 42 Line causing the 42L breaker at the Silver Bay Substation and the 42-145LW and BUS1-42LW breakers at the Two Harbors Switching Station to lock out. Crews were able to isolate the outage and restore all customers in 138 minutes. The tree was then removed and 42 Line was energized to its normal state. No further action is necessary.

59 Line –

- On **August 31, 2013,** windy conditions in the area knocked a tree into 59 Line, causing breakers 59L, at the Mahtowa Substation, and 59LM, at the Sandstone substation, to lock out. Initially crews restored 2,017 customers through switching in 94 minutes. The tree was then removed and the remaining 326 customers were restored after 406 minutes. No further action is necessary.

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

There were 24 reports filed under 7826.0700 during 2013. Please refer to Attachment C for written copies of the reports.

2013 major interruptions affecting 500 or more customers for over an hour

Date Off	Time Off	Date / Time On	Date On	Time On	Duration	Cause
1/14/2013	11:36:00 AM	1/14/13 20:36	1/14/2013	8:36:00 PM	540 MINUTES	Dmg to transformer at sub. Brought in mobile sub.
1/20/2013	4:37:00 AM	1/20/13 5:42	1/20/2013	5:42:00 AM	65 MINUTES	Cause Unknown. (no FINAL version of report, FIRST was not saved to SD MPUC FOLDER)
2/1/2013	2:27:00 PM	2/1/13 15:41	2/1/2013	3:41:00 PM	74 MINUTES	Unknown, breaker opened at sub.
3/9/2013	9:45:00 AM	3/9/13 11:02	3/9/2013	11:02:00 AM	77 MINUTES	Burnt crossarm on HWY 34.
4/11/2013	5:29:00 AM	4/11/13 8:25	4/11/2013	8:25:00 AM	176 MINUTES	Tree on wire at 42 W Toledo St caused lockout.
	7:27:00 PM	5/15/13 20:55	5/15/2013	8:55:00 PM	88 MINUTES	Trip coil malfunction at Long Prairie 115 sub.
5/18/2013	6:00:00 PM	5/18/13 22:15	5/18/2013	10:15:00 PM	255 MINUTES	2 blown lightning arresters at sub.
6/16/2013	5:37:00 PM	6/16/13 20:12	6/16/2013	8:12:00 PM	155 MINUTES	Tree took down primary wire.
6/16/2013	6:35:00 PM	6/16/13 21:00	6/16/2013	9:00:00 PM	145 MINUTES	(Partial restore). Tree took down 3phase pole.
6/20/2013	5:33:00 AM	6/20/13 6:38	6/20/2013	6:38:00 AM	65 MINUTES	Weather.
6/23/2013	9:20:00 AM	6/23/13 11:30	6/23/2013	11:30:00 AM	90 MINUTES	Burnt insulator, pole fire.
6/23/2013	8:40:00 AM	6/23/13 12:35	6/23/2013	12:35:00 PM	235 MINUTES	Partial restore at 11:10 AM. Broken switch gear at sub.
6/25/2013	4:33:00 PM	6/25/13 17:44	6/25/2013	5:44:00 PM	71 MINUTES	Birds (crows) in the Winton Sub 6 (Lake Country Power) sub,.
7/10/2013	5:15:00 PM	7/10/13 20:05	7/10/2013	8:05:00 PM	170 MINUTES	Bad underground cable.
8/18/2013	8:00:00 PM	8/18/13 22:17	8/18/2013	10:17:00 PM	137 MINUTES	Bad spot on 42 Line between Silver Bay Hillside 77 and UPA Waldo 88 to be repaired 8/19/13.
8/26/2013	5:59:00 PM	8/26/13 20:57	8/26/2013	8:57:00 PM	178 MINUTES	Trees took down primary wire (storms in area)
8/31/2013	7:59:00 PM	9/1/13 3:05	9/1/2013	3:05:00 AM	426 MINUTES	Possibly caused by lightning. Storms in area.
9/19/2013	8:42:00 AM	9/19/13 10:59	9/19/2013	10:59:00 AM	137 MINUTES	Weather/lightning
10/11/2013	11:52:00 PM	10/12/13 0:53	10/12/2013	12:53:00 AM	61 MINUTES	Found burnt off pole top on Primary.
10/11/2013	6:52:00 PM	10/11/13 20:40	10/11/2013	8:40:00 PM	108 MINUTES	Virginia Sub transformer #3 hit by lightning.
11/2/2013	2:00:00 AM	11/2/13 3:04	11/2/2013	3:04:00 AM	64 MINUTES	Vehicle accident at intersection of Highway 101 and Mine Crossing.
12/4/2013	2:25:00 PM	12/4/13 15:41	12/4/2013	3:41:00 PM	76 MINUTES	Tree fell (Due to weather, snow, wind) onto primary wire, tripped feeder
12/4/2013	5:40:00 PM	12/4/13 18:55	12/4/2013	6:55:00 PM	75 MINUTES	Weather - snow/ice
12/5/2013	5:08:00 PM	12/5/13 18:30	12/5/2013	6:30:00 PM	82 MINUTES	Weather
12/5/2013	2:56:00 AM	12/5/13 4:11	12/5/2013	4:11:00 AM	75 MINUTES	Tree on primary

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

Section H requires that Minnesota Power report on the Company's worst performing circuit for each work center. Since Minnesota Power considers our entire service area a single work center, this would result in only one circuit being reported. As in the past, rather than listing only one feeder, the four worst performing feeders (2 urban and 2 rural) are identified. This is done in recognition of how reliability indices are affected by differing characteristics of feeder length and quantity of customers.

The feeder evaluation process utilized high feeder SAIDI and high total customer-minutes of outage (i.e. # customers X SAIDI) as criteria for selection of two urban and two rural feeders.

Worst Performing Feeders Using Major Event Normalized Data

Criteria	**Circuit**	**# Customers**	**SAIDI**	**SAIFI**	**CAIDI**
High Feeder SAIDI (Urban)	15th Ave. W. 231	64	606.31	2.30	263.61
High Customer Outage Minutes (Urban)	Colbyville 242	2470	282.30	3.17	89.05
High Feeder SAIDI (Rural)	Mahtowa 6411	531	691.80	2.95	234.51
High Customer Outage Minutes (Rural)	Sandstone 6531	1235	543,429	1.21	364.72

15th Ave. W. 231

Major Outage Events:

- **November 30, 2013 –** A bad section of underground cable resulted in 231F breaker to lockout for 256 minutes.
  - Repairs were made to the bad cable and power was restored**.**
- **December 3, 2013** – A snow storm resulted in 231 feeder's conductors to gallop due to ice build-up. Crews had to temporarily de-energize the feeder to protect the conductors from slapping together.
  - Crews put in spacers to prevent future galloping of the conductors.

Colbyville 242

Major Outage Events:

- **May 20, 2013 –** A jumper near the substation burnt off, causing an entire phase in 242 feeder to lose power.
  - Some customers were restored through sectionalizing. The jumper was repaired and power was restored to the remaining customers.
- **June 16, 2013 –** A tree fell during a windy storm on the backbone of 242 feeder causing the breaker, 242FM, to lock out.
  - Some customers were restored through sectionalizing. The tree was removed and power was restored to the remaining customers.
- **December 5, 2013 –** A tree fell on 242 feeder during a major snow storm causing the breaker, 242FM, to lock out.
  - The tree was removed and power was restored to the remaining customers.

Mahtowa 6411

Major Outage Events:

- **June 23, 2013 –** The 1T1 switch to the reserve transformer being fed off of 59 Line failed, causing the MAT 420F breaker to lockout.
  - Crews isolated the bad switch and restored power through switching.
- **October 15, 2013 –** One blown high side transformer fuse and two melted dead end insulators resulted in two phases of 6411 feeder to experience an outage.
  - Crews replaced both dead end insulators and one high side fuse and power was restored.

Sandstone 6531

Major Outage Events:

- **May 18, 2013 –** Two blown arresters and a blown high side fuse resulted in 6531 feeder to experience an outage.
  - Crews replaced the arresters, put in new high side fuses, and power was restored.

I. *Data on all known instances in which nominal electric service voltages on the utility's side of the meter did not meet the standards of the American National Standards Institute for nominal system voltages greater or less than voltage range B.*

There were 2 reported instances in 2013.

Date	Account	Trouble Order
2/21/2013	11675	194575

11/26/2013	328201409	208479

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 105 full-time equivalent field employee positions in 2013 responsible for responding to trouble calls and for the operation and maintenance of distribution lines.

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 2014:

SAIDI = 97.50
SAIFI = 1.02
CAIDI = 95.59

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

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

The CAIDI target is calculated as SAIDI divided by SAIFI.

REPORTING METER-READING PERFORMANCE

7826.1400

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

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

Residential

Month	Co. Reads	Est	Total	% Read	System Total	% Read of System Total
Jan-13	111,998	2,668	114,666	97.67%	142,742	78.46%
Feb-13	111,830	2,846	114,676	97.52%	142,207	78.64%
Mar-13	111,729	2,952	114,681	97.43%	142,226	78.56%
Apr-13	112,534	2,228	114,771	98.05%	143,323	78.52%
May-13	113,407	1,338	114,745	98.83%	144,024	78.74%
Jun-13	116,634	1,569	118,203	98.67%	144,315	80.82%
Jul-13	112,849	1,961	114,810	98.29%	144,110	78.31%
Aug-13	112,710	2,104	114,814	98.17%	143,724	78.42%
Sep-13	112,901	1,979	114,703	98.43%	143,016	78.55%
Oct-13	116,136	2,279	118,415	98.08%	142,968	81.23%
Nov-13	112,288	2,663	114,951	97.68%	142,301	78.91%
Dec-13	107,175	6,695	113,870	94.12%	140,095	76.50%
2013 Avg	112,683	2,607	115,275	97.75%		78.81%

Commercial

Month	Co. Reads	Est	Total	% Read	System Total	% Read of System Total
Jan-13	18,997	634	19,631	96.77%	142,742	13.31%
Feb-13	18,991	659	19,650	96.65%	142,207	13.35%
Mar-13	19,000	666	19,666	96.61%	142,226	13.36%
Apr-13	19,056	619	19,675	96.85%	143,323	13.30%
May-13	19,304	391	19,695	98.01%	144,024	13.40%
Jun-13	19,289	436	19,725	97.79%	144,315	13.37%
Jul-13	19,248	514	19,762	97.40%	144,110	13.36%
Aug-13	19,187	592	19,779	97.01%	143,724	13.35%
Sep-13	19,285	527	19,812	97.34%	143,016	13.48%
Oct-13	19,078	801	19,879	95.97%	142,968	13.34%
Nov-13	18,940	981	19,921	95.08%	142,301	13.31%
Dec-13	18,819	767	19,589	96.07%	140,095	13.43%
2013 Avg	19,100	632	19,732	96.80%		13.36%

Industrial

Month	Co. Reads	Est	Total	% Read	System Total	% Read of System Total
Jan-13	441	17	458	96.29%	142,742	0.31%
Feb-13	446	12	458	97.38%	142,207	0.31%
Mar-13	446	11	457	97.59%	142,226	0.31%
Apr-13	451	7	458	98.47%	143,323	0.31%
May-13	457	3	460	99.35%	144,024	0.32%
Jun-13	456	4	460	99.13%	144,315	0.32%
Jul-13	458	3	461	99.35%	144,110	0.32%
Aug-13	454	8	462	98.27%	143,724	0.32%
Sep-13	453	9	462	98.05%	143,016	0.32%
Oct-13	457	6	463	98.70%	142,968	0.32%
Nov-13	452	7	459	98.47%	142,301	0.32%
Dec-13	416	9	425	97.88%	140,095	0.30%
2013 Avg	449	8	457	98.25%		0.31%

Municipal Pumping

Month	Co. Reads	Est	Total	% Read	System Total	% Read of System Total
Jan-13	288	18	306	94.12%	142,742	0.20%
Feb-13	287	19	306	93.79%	142,207	0.20%
Mar-13	291	15	306	95.10%	142,226	0.20%
Apr-13	285	22	307	92.83%	143,323	0.20%
May-13	297	11	308	96.43%	144,024	0.21%
Jun-13	300	10	310	96.77%	144,315	0.21%
Jul-13	297	14	311	95.50%	144,110	0.21%
Aug-13	297	15	312	95.19%	143,724	0.21%
Sep-13	300	13	313	95.85%	143,016	0.21%
Oct-13	296	20	316	93.67%	142,968	0.21%
Nov-13	295	21	316	93.35%	142,301	0.21%
Dec-13	291	13	304	95.72%	140,095	0.21%
2013 Avg	294	16	310	94.86%		0.21%

Lighting

Month	Co. Reads	Est	Total	% Read	System Total	% Read of System Total
Jan-14	189	7	196	96.43%	142,742	0.13%
Feb-14	185	11	196	94.39%	142,207	0.13%
Mar-14	190	6	196	96.94%	142,226	0.13%
Apr-14	188	8	196	95.92%	143,323	0.13%
May-14	193	3	196	98.47%	144,024	0.13%
Jun-14	192	4	196	97.96%	144,315	0.13%
Jul-14	193	5	198	97.47%	144,110	0.13%
Aug-14	198	3	200	99.00%	143,724	0.14%
Sep-14	199	3	202	98.51%	143,016	0.14%
Oct-14	193	10	203	95.07%	142,968	0.13%
Nov-14	201	6	207	97.10%	142,301	0.14%
Dec-14	186	2	188	98.94%	140,095	0.13%
2013 Avg	192	6	198	97.18%		0.13%

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-13	35	7	42	83.33%	142,742	0.02%
Feb-13	27	6	33	81.82%	142,207	0.02%
Mar-13	6	4	10	60.00%	142,226	0.00%
Apr-13	8	-	8	100.00%	143,323	0.01%
May-13	9	1	10	90.00%	144,024	0.01%
Jun-13	9	2	11	81.82%	144,315	0.01%
Jul-13	10	2	12	83.33%	144,110	0.01%
Aug-13	13	2	15	86.67%	143,724	0.01%
Sep-13	16	3	19	84.21%	143,016	0.01%
Oct-13	18	1	19	94.74%	142,968	0.01%
Nov-13	18	7	25	72.00%	142,301	0.01%
Dec-13	14	4	18	77.78%	140,095	0.01%
2013 Avg	15	3	19	82.97%		0.01%

Commercial

Month	Cust Reads	Est	Total	% Read	System Total	% Read of System Total
Jan-13	12	4	16	75.00%	142,742	0.01%
Feb-13	8	3	11	72.73%	142,207	0.01%
Mar-13	4	2	6	66.67%	142,226	0.00%
Apr-13	1	-	1	100.00%	143,323	0.00%
May-13	1	-	1	100.00%	144,024	0.00%
Jun-13	1	-	1	100.00%	144,315	0.00%
Jul-13	2	-	2	100.00%	144,110	0.00%
Aug-13	2	-	2	100.00%	143,724	0.00%
Sep-13	4	0	4	100.00%	143,016	0.00%
Oct-13	3	-	3	100.00%	142,968	0.00%
Nov-13	4	-	4	100.00%	142,301	0.00%
Dec-13	4	-	4	100.00%	140,095	0.00%
2013 Avg	4	1	5	92.87%		0.00%

Industrial

Month	Cust Reads	Est	Total	% Read	System Total	% Read of System Total
Jan-13	1	0	1	100.00%	142,742	0.00%
Feb-13	1	0	1	100.00%	142,207	0.00%
Mar-13	0	1	1	0.00%	142,226	0.00%
Apr-13	-	0	0	0.00%	143,323	0.00%
May-13	-	0	0	0.00%	144,024	0.00%
Jun-13	-	0	0	0.00%	144,315	0.00%
Jul-13	-	0	0	0.00%	144,110	0.00%
Aug-13	-	0	0	0.00%	143,724	0.00%
Sep-13	-	0	0	0.00%	143,016	0.00%
Oct-13	-	0	0	0.00%	142,968	0.00%
Nov-13	-	0	0	0.00%	142,301	0.00%
Dec-13	-	0	0	0.00%	140,095	0.00%
2013 Avg				16.67%		0.00%

<u>Municipal Pumping</u>

No Self-reads

<u>Lighting</u>

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

Residential/Commercial/Industrial/Municipal Pumping/ Lighting						
Months Estimated	**Company Read Service Points**	**% of Total**	**Not Read Reason**	**Customer Read Service Points**	**% of Total**	**Not Read Reason**
6 Months	47	0.034%	No Access/AMR	0	0.000%	No Access
7 Months	24	0.017%	No Access/AMR	0	0.000%	No Access
8 Months	11	0.008%	No Access/AMR	0	0.000%	No Access
9 Months	3	0.002%	No Access/AMR	0	0.000%	No Access
10 Months	1	0.001%	No Access/AMR	0	0.000%	No Access
11 Months	3	0.002%	No Access/AMR	0	0.000%	No Access
12 Months	2	0.001%	No Access/AMR	0	0.000%	No Access
12+Months	14	0.010%	No Access/AMR	1	0.001%	No Access
Totals:	**105**			**1**	**0**	

Minnesota Rules 7820.3300 requires that meters be read at least 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)

Labor 2013												
2013	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Meter Reader Collector	9	9	9	9	10	10	10	10	10	10	9	9

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.*

2013 Involuntary Disconnection Report

	A			B		C						D		
	# Customers Receiving Disconnection Notices			# Customers Who Sought CWR Protection	# Customers Who Were 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	5874	808	12	556	553	46	2	0	18	0	0	19		0
Feb	5314	910	15	326	325	84	4	0	24	0	0	19		0
Mar	4855	886	15	180	179	91	6	0	30	4	0	25	1	0
Apr	3074	863	19	9	9	36	3	0	33	1	0	46		0
May	1971	820	12	0	0	583	17	0	196	4	0	88	2	0
Jun	2189	682	18	0	0	293	9	1	113	2	0	51		0
Jul	3861	795	12	0	0	718	8	0	241	0	0	68		0
Aug	2578	695	9	0	0	504	6	0	180	1	0	78		0
Sep	2613	705	7	0	0	434	1	0	157	0	0	59		0
Oct	3024	859	14	386	386	274	2	0	98	0	0	80		0
Nov	2494	748	12	683	683	80	4	0	25	1	0	30	1	0
Dec	2604	725	12	477	477	28	1	0	7	0	0	13		0
Totals	**40451**	**9496**	**157**	**2617**	**2612**	**3171**	**63**	**1**	**1122**	**13**	**0**	**576**	**4**	**0**

REPORTING SERVICE EXTENSION REQUEST RESPONSE TIMES

7826.1600

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

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

Residential Locations not Previously Served						
2013 Month	Request Date Met	1-10 Days	11-21 Days	Over 21 Days	Total	Response Time (Calendar Days)
January	14	0	0	0	14	-0.71
February	17	0	1	0	18	-3.56
March	7	1	0	0	8	-10.88
April	99	1	0	0	100	-20.54
May	24	6	0	2	32	-0.03
June	32	8	3	3	46	0.07
July	22	6	11	1	40	2.78
August	37	8	6	1	52	-1.15
September	54	5	7	5	71	-3.04
October	52	30	2	0	84	-1.37
November	50	4	4	2	60	-3.28
December	15	11	0	1	27	0.44
Totals	423	80	34	15	552	

Commerical Locations not Previously Served						
2013 Month	Request Date Met	1-10 Days	11-21 Days	Over 21 Days	Total	Response Time (Calendar Days)
January	6	0	0	0	6	-11.00
February	4	0	0	0	4	0.00
March	4	0	0	0	4	-13.00
April	2	0	0	0	2	-2.50
May	15	2	1	0	18	-4.83
June	15	4	1	1	21	-2.38
July	26	4	2	3	35	1.80
August	14	3	1	0	18	-3.94
September	25	1	1	3	30	0.73
October	40	10	1	0	51	-2.29
November	24	4	1	0	29	-4.17
December	14	7	0	1	22	-3.82
Totals	189	35	8	8	240	

Industrial Locations not Previously Served						
2013 Month	Request Date Met	1-10 Days	11-21 Days	Over 21 Days	Total	Response Time (Calendar Days)
January	0	0	0	0	0	
February	0	0	0	0	0	
March	0	0	0	0	0	
April	0	0	0	0	0	
May	0	0	0	0	0	
June	0	0	0	0	0	
July	0	0	0	0	0	
August	0	0	0	0	0	
September	0	0	0	0	0	
October	1	0	0	0	1	
November	1	0	0	0	1	
December	0	0	0	0	0	
Totals	2	0	0	0	2	

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

Delays due to Customer:		
Customer Site not ready:	53	29.44%
Inspection/Affidavit not received:	1	<1%
Late Notification	2	1.11%
No Access:	3	1.67%
Delays Due to Utility:		
Bad Date Info	51	28.33%
Redesign Job	1	<1%
Workload	49	27.22%
Material/equipment unavailable	1	<1%
Lost/Incomplete Paperwork	2	1.11%
Other:		
Road Restrictions	3	1.67%
Weather	13	7.22%
Waiting on Permit	1	<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						
2013 Month	Request Date Met	1-10 Days	11-21 Days	Over 21 Days	Total	Response Time (Calendar Days)
January	66	6	0	0	72	0.01
February	44	5	0	0	49	0.24
March	66	1	0	0	67	-0.10
April	75	1	0	0	76	-0.07
May	151	12	1	0	164	-0.09
June	184	18	0	0	202	-0.87
July	213	13	2	3	231	0.55
August	290	15	1	0	306	-0.44
September	226	12	0	5	243	0.16
October	295	27	4	0	326	0.02
November	136	38	1	1	176	0.15
December	90	6	0	1	97	0.27
Totals	1836	154	9	10	2009	

Commerical Locations Previously Served						
2013 Month	Request Date Met	1-10 Days	11-21 Days	Over 21 Days	Total	Response Time (Calendar Days)
January	14	1	0	0	15	0.00
February	17	1	0	0	18	-3.89
March	15	2	0	0	17	-6.59
April	25	1	1	0	27	0.52
May	22	2	0	0	24	-5.38
June	21	1	1	0	23	-10.13
July	17	4	2	0	23	1.87
August	25	3	0	1	29	-1.45
September	23	5	1	0	29	-2.90
October	27	2	1	0	30	-4.23
November	27	3	0	0	30	-2.70
December	17	1	1	0	19	-2.11
Totals	250	26	7	1	284	

Industrial Locations Previously Served						
2013 Month	Request Date Met	1-10 Days	11-21 Days	Over 21 Days	Total	Response Time (Calendar Days)
January	5	1	0	0	6	0.33
February	1	0	0	0	1	-6.00
March	0	0	0	0	0	0.00
April	0	0	0	0	0	0.00
May	1	0	0	0	1	0.00
June	0	0	0	0	0	0.00
July	1	0	0	0	1	0.00
August	2	0	0	0	2	0.00
September	0	0	0	0	0	0.00
October	0	0	0	0	0	0.00
November	1	0	0	0	1	0.48
December	0	0	0	0	0	0.00
Totals	11	1	0	0	12	

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

Delays due to Customer:		
Customer Site not ready:	17	8.17%
Inspection/Affidavit not received:	2	<1%
Late Notification	72	34.62%
Load on Meter	26	12.50%
Cust not At Prem	2	<1%
No access to site	3	1.40%
Delays Due to Utility:		
Bad Date Info	24	11.54%
Workload	51	24.52%
Paperwork Lost	2	<1%
Other:		
Road Restrictions	1	<1%
Weather	7	3.37%
W/Permit	1	<1%

REPORTING CALL CENTER RESPONSE TIMES

7826.1700

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

Percent of all calls answered within 20 seconds.

Business Hours 7:00 a.m. - 5:30 p.m.					After Hours 5:30 p.m. - 7:00 a.m.			
Month	2013	Total Calls	Calls Answered within 20 seconds		Month	2013	Total Calls	Calls Answered within 20 seconds
JAN	87%	15,051	13,130		JAN	74%	910	675
FEB	93%	13,432	12,490		FEB	77%	736	567
MAR	92%	13,084	11,986		MAR	74%	755	558
APRIL	85%	14,955	12,752		APRIL	68%	883	598
MAY	71%	16,394	11,670		MAY	54%	1,122	610
JUNE	81%	14,614	11,852		JUNE	62%	1,115	690
JULY	86%	17,661	15,172		JULY	54%	1,303	698
AUG	85%	15,876	13,422		AUG	58%	1,220	703
SEP	83%	14,956	12,484		SEP	67%	899	605
OCT	84%	16,498	13,910		OCT	52%	1,158	604
NOV	83%	13,166	10,906		NOV	70%	808	567
DEC	84%	12,709	10,691		DEC	52%	1,256	656
YTD	**85%**	**178,396**	**150,465**		YTD	**64%**	**12,165**	**7,531**

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 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 2013, Minnesota Power had 98 customers request emergency medical account status. All 98 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.

Number of required deposits from customers applying for service:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Res	18	24	29	32	24	27	31	37	36	39	20	9	**326**
Com	2	0	1	2	0	0	0	0	4	2	0	0	**11**
Total	20	24	30	34	24	27	31	37	40	41	20	9	**337**

(No other customer class was required to provide a deposit)

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.*

	2013													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	
Customer Class	**Complaint Totals**													**% of Total**
Commercial	5	7	11	5	3	5	9	4	3	4	5	2	63	8.68%
Residential	103	130	80	64	53	40	31	32	33	27	25	45	663	91.32%
Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
Total	**108**	**137**	**91**	**69**	**56**	**45**	**40**	**36**	**36**	**31**	**30**	**47**	**726**	**100.00%**

(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.*

		2013													
	Grouped Month/Year	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total**	**% of Total**
CC Types	**Customer Class**	**Number of Contacts**													
Billing Error	Commercial	0	0	1	0	2	0	0	1	0	1	1	0	6	0.84%
Billing Error	Residential	2	2	3	0	2	1	3	2	1		2	1	19	2.66%
Incorrect Metering	Commercial	2	2	6	2	0	2	4	1	0	2	0	2	23	3.22%
Incorrect Metering	Residential	23	27	27	28	27	13	4	3	11	8	5	13	189	26.43%
Wrongful Disconnection	Residential	0	0	0	0	1	0	1	1	1	0	0	0	4	0.56%
High Bill Complaint	Commercial	3	4	3	3	1	2	3	2	2	1	3	0	27	3.78%
High Bill Complaint	Residential	76	95	47	34	20	25	19	21	18	17	17	29	418	58.46%
Inadaquate Service	Commercial	0	1	1	0	0	1	0	0	1	0	0	0	4	0.56%
Inadaquate Service	Residential	2	6	2	2	2	1	2	1	2	1	1	1	23	3.22%
Service Restoration	Residential	0	0	0	0	0	0	0	1	0	1	0	0	2	0.28%
Total		**108**	**137**	**90**	**69**	**55**	**45**	**36**	**33**	**36**	**31**	**29**	**46**	**715**	**100.00%**

The total number of complaints/contacts in this table is 715 whereas the total in Part A was 726. The difference is 11 complaints forwarded to Minnesota Power by the Commission's Consumer Affairs Office for further investigation and action in 2013.

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

		2013												
	Contact Month	**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	0	1	0	0	0	0	0	0	0	0	0	1	2
Greater Than 10 Days	Residential	1	1	0	1	1	1	1	2	1	0	0	3	12
Less Than 10 Days	Commercial	0	0	2	1	0	1	1	0	0	0	2	1	8
Less Than 10 Days	Residential	5	11	5	2	5	6	5	4	5	4	3	9	64
Same Day Resolution	Commercial	5	6	9	4	3	4	8	4	3	4	3	0	53
Same Day Resolution	Residential	97	118	75	61	47	33	25	26	27	23	22	33	587
Total	**Total**	**108**	**137**	**91**	**69**	**56**	**45**	**40**	**36**	**36**	**31**	**30**	**47**	**726**

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.*

	2013			
Customer Class	**Commercial**	**Residential**	**Total**	
Resolution Reason	**Count of Contacts**			**% Resolved Contacts**
Customer Request	13	92	105	14.46%
Compromise	21	232	253	34.85%
No Control	28	329	357	49.17%
Refuse	1	10	11	1.52%
Total	**63**	**663**	**726**	**100.00%**

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

Minnesota Power had 11 complaints (8 Residential/3 Commercial) forwarded to the utility by the Commission's Consumers Affairs Office for further investigation and action in 2013.

2013			
Customer Class Abr	**CC Types**	**Grouped Month/Year**	**Count CCs**
Commercial	Fwd to MP by MPUC	Jul	2
Commercial	Fwd to MP by MPUC	Nov	1
Commercial	Total	Total	3
Residential	Fwd to MP by MPUC	Mar	1
Residential	Fwd to MP by MPUC	May	1
Residential	Fwd to MP by MPUC	Jul	2
Residential	Fwd to MP by MPUC	Aug	3
Residential	Fwd to MP by MPUC	Dec	1
Residential	Total	Total	8
Total	Total	Total	11

STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

Minnesota Power's 2014 Annual Report Concerning Past, Current and Planned Smart Grid Projects	Docket No. E999/CI-08-948 COMPLIANCE REPORT

Minnesota Power submits this Report to the Minnesota Public Utilities Commission ("Commission") in compliance with the Commission's Order dated June 5, 2009 (Docket No. E-999/CI-08-948). This report supplements last year's report as it is meant to serve as an update to Minnesota Power's Smart Grid activities. Minnesota Power welcomes questions and feedback pertaining to the information presented in this Report.

Review of Past Smart Grid Projects

Minnesota Power serves approximately 143,000 retail electric customers and 16 municipal systems across a 26,000-square-mile service area in central and northeastern Minnesota. Residential customers comprise less than 10 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 with a particularly high load factor due to continuous operation. This ratio of industrial demand gives Minnesota Power a unique load profile with less variation than most utilities.

For more than 35 years, Minnesota Power has been making strategic investments into infrastructure and technologies to improve both the transmission and distribution systems that make up its grid. Minnesota Power has progressed from a company that was utilizing leased line substation communications prior to 1976 to a Company that is seen as a forward-looking distribution utility focused on the cost effective use of communication infrastructure. A brief history of Minnesota Power's investments to upgrade its system includes:

Year 1976 – Initial use of analog wireless substation communication towers

Allowed monitoring and automated control of Minnesota Power's Utility Substations. Communication paths with substations allowed for tremendous increase in operational efficiencies that resulted in less labor for managing remote facilities.

Year 1978 – First U.S. utility owned fiber optic used for operations

Paralleled with the deployment of wireless networks, Minnesota Power saw the value of bandwidth and movement of high volumes of data related to fiber-optic networks to manage its critical substation assets. These investments have continued to provide a reliable and secure path to manage its most critical assets.

Year 1992 – Use of public wireless networks for meter data retrieval

The advent of Solid state measurement devices in the late 1980's allowed for tremendous advancement in the way customer information was handled. Advanced Mobile Phone Systems ("AMPS") allowed utilities to replace labor intensive systems with analog wireless communication, allowing on-demand retrieval of usage data and reporting of service level issues.

Year 1994 – Substation communication converted to digital wireless

Conversion to digital wireless was a natural progression for the Company's analog systems, as that equipment became obsolete and required considerable amount of additional maintenance.

Year 2000 – Investment in power line carrier Automated Meter Reading ("AMR") System

Investment in AMR was a major step forward in efficiency. By deploying a one-way power line carrier network, Minnesota Power was able to get regular, reliable meter readings without the use of manual labor for meter reading. This allowed for a great deal more customer data to be stored for historical records and provided back to customers.

Year 2007 – Final conversion of AMPS wireless to digital

AMPS were determined to be an obsolete technology by the Federal Communications Commission, which forced replacement of all of the AMPS communication devices deployed across the country.

Year 2008 – Advance Metering Infrastructure ("AMI") smart meters deployed

As AMI systems became commercially available, Minnesota Power looked at all of the additional benefits that a higher speed, two-way AMI system could provide. The benefits of AMI are discussed in the Current and Planned Smart Grid Projects section of this report.

Year 2011 to present – Distribution Automation Self-Healing Network Online

In a partnership with the U.S. Department of Energy, Minnesota Power was able to deploy its first self-healing distribution network on its system. The system uses logic to limit the impact of outages to as few customers as possible. The Company installed all equipment in 2011 to create what is known in the utility industry as a "self-healing" or "self-correcting" feeder. The equipment and a high level of key enhancements it facilitates include:

- Six S&C IntelliRupter PulseCloser intelligent switches (can also function as reclosers).

- Eight intelligent dynamic devices (2 existing reclosers and the 6 IntelliRupters) tied together and communicating with fiber optics.

- Switches are individually programmed to isolate a fault and automatically reconfigure the circuit to restore power to customers

- Automatic switching and isolation will result in lower customer outage minutes by dynamically responding to fault situations.

Current and Planned Smart Grid Projects

In late 2007, Minnesota Power initiated evaluation of AMI technology. This evaluation resulted in the development of Minnesota Power's Smart Grid-AMI Pilot Project. The Company was selected to receive a Department of Energy ("DOE") American Recovery and Reinvestment Act ("ARRA") Smart Grid Investment Grant ("SGIG") for the Smart Grid-AMI Pilot Project totaling $1.5 million, or one-half of the estimated total project costs. See Table 2- Summary of the costs for currently planned Smart Grid projects, on Page 8, for further details of project budget information.

Advanced Metering Infrastructure:

Minnesota Power continues the process of implementing its AMI meter installation. At the end of 2013 the Company had installed approximately 24,000 AMI meters. The current AMI population represents approximately 18 percent of the overall meter population. (See Table 1 on Page 4)

Table 1 illustrates the type and approximate percentage of meters currently in use

Equipment	Percent in Use	Description
Mechanical Meters	Less than 1%	Traditional electro-mechanical meter that records kWh usage.
AMR – Mechanical Hybrid	64%	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	17%	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	18%	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.

8,030 AMI meters were installed as part of the Smart Grid-AMI Pilot Project. The Smart Grid-AMI Pilot Project was originally designed to provide an incremental, but functional increase in the Company's ability to better serve customers. Overall, the AMI system allows efficient metering access between Minnesota Power and its customers. With the meters acting as smart nodes on each premise, a multitude of benefits can be derived including: efficient deployment of advanced time-based rates, outage notification, and notification of service issues (such as low/high voltage and tamper warnings), improved load control, and more frequent customer data. The expansion of Minnesota Power's AMI capabilities lays the groundwork for further Smart Grid initiatives.

Transmission Investments

Line Panel Project

The Company is continuing a project to replace certain 115kV line panels at key substation locations, and install system software that improves grid intelligence and enhances cyber security. This project involves installing a cyber-security solution to meet North American Electric Reliability Corporation ("NERC") Critical Infrastructure Protection ("CIP") requirements on Minnesota Power's Energy Management System ("EMS"). The project will deploy and test technology across a networked infrastructure to achieve the following: collection of non-operational data to a single intelligent source, NERC CIP conforming remote cyber secure access for equipment configuration and control, unified event file collection and archiving, and collection of data for smart condition based maintenance.

Minnesota Power's line panel project is aimed at implementing the necessary digital upgrades in the Company's transmission line infrastructure thereby improving outage detection and equipment maintenance. Key system software upgrades will help improve protection against cyber-related vulnerabilities. The upgrades also facilitate operating efficiency by reducing line panel maintenance, by insuring communication between system operators and new line panels, and by increasing overall system reliability. The modern technology utilized improves the reliability, security, and efficiency of Minnesota Power's electric grid.

Midwest Independent System Operator[1] ("MISO") Synchrophasor Project

Minnesota Power is a participant in the Midwest 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 synchrophasor data to system operators giving them a more comprehensive, wide area visualization of the power system network. Synchrophasor data can also be used to verify the computer simulation models that are used to plan and operate the system. As application

[1] The Midwest Independent System Operator is an independent, nonprofit organization that supports the reliable delivery of electricity in 13 U.S. states and the Canadian province of Manitoba.

software matures along with the rollout of these devices across the Eastern Interconnection[2], synchrophasor data will become an integral part of interconnected grid operations. 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.

Distribution System Investments

Outage Management

Minnesota Power unveiled a website-based Outage Center in 2010 which facilitates the reporting and display of outage information. The Outage Center provides visitors with specific outage locations and also allows them to report outages or check the status of outages online. In 2011, Minnesota Power introduced applications to allow customers to view the Outage Center on their Android, Blackberry and iPhone devices. Customers are able to now report outages as well as check on the status of outages from anywhere at any time.

In addition to the customer-centric features described above, Minnesota Power has completed implementation on its planned integration of the Outage Management System ("OMS") and AMI system. The interface streams data directly from customer meters to the OMS. The architecture of the system provides outage or "last gasp" messages from all AMI meters. The meters utilize an internal temporary power source to provide notification of customer outages. Additionally, the meters stream "power on" messages when service is restored. The interface between the OMS and AMI system was completed in November of 2012 and is currently in use by approximately 18 percent of Minnesota Power's customers.

[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. The Eastern Interconnection reaches from Central Canada Eastward to the Atlantic coast (excluding Québec), South to Florida, and back West to the foot of the Rockies (excluding most of Texas).

Voltage Monitoring

In 2006, Minnesota Power began a pilot program to install voltage/outage monitoring equipment on primary lines that were not monitored by its EMS to enhance outage response on these lines. These were normally lower voltage rural systems served by substations without any communications infrastructure. The pilot grew over the past several years to include other applications including customer sites and some lines that had limited EMS data points. These pilot installations have been improving outage response times due to the fact that dispatchers are able to send crews out to the right locations faster and restore outages at a more rapid pace. More precisely monitoring voltages also helps the Company determine the overall condition of the system, including voltage imbalances, during peak loading periods.

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 a Time-of-Day Rate filing to the Commission on March 20, 2012 which 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 is currently preparing the final Rate offering for the Time-of-Day Rate to customers and this Rate should be available in the second quarter of 2014.

Project Cost and Cost Effectiveness

Minnesota Power has invested the entire $3.1 million Smart Grid-AMI Pilot Project budget. Approximately $1.55 million of the total project budget was provided through the SGIG. The majority of the grant expenditures were utilized for expanding the capability of the AMI system, the Dual Fuel system upgrade, and the Distribution Automation project.

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

The total SGIG investment in the Dual Fuel system upgrade to date is approximately $420,000. This $420,000 investment has saved Minnesota Power customers approximately $300,000 in avoided capital costs compared to what would have been necessary if the older technology system was still being utilized. With this upgrade, Minnesota Power has realized a 70 percent reduction in overall costs for the Dual Fuel system. This reduction includes savings in operations and maintenance.

For the Distribution Automation portion of the project Minnesota Power invested approximately $550,000 ($250,000 in intelligent switches and $300,000 in fiber communication). The fiber communications addition provided further communication redundancy between two critical substations in the Duluth area, along with providing situational awareness at the distribution feeder level. Minnesota Power experienced a major event in the Distribution Automation area in the spring of 2013. During the event, approximately 2,800 customers would have experienced an extensive outage of multiple hours if upgrades to the system had not been made. As a result of the automation investments, approximately 70 percent of the effected customers were restored nearly instantaneously with only a momentary interruption of service. The upgraded system operated exactly as designed and provided the restoration benefits that Minnesota Power projected given the catastrophic nature of the Distribution Feeder event. Further analysis will be required to determine if the potential reliability improvement to can be justified at this level of investment for a relatively small group of customers. At this time the Company's engineering evaluation does not support system wide deployment of this technology. However, it may be justified in the future as the technology becomes more economical or customer expectations increase dramatically.

Table 2- Summary of the costs for currently planned Smart Grid projects.

Project	**Total Cost**	**Portion Recovered Through SGIG**
AMI meter expansion	$5,400,00	$1,025,000
Distribution Automation	$550,000	$125,000
Dual Fuel Upgrade	$420,000	$210,000
Voltage Monitoring	$300,000	$0
MISO Synchrophasor Project	$150,000	$150,000

Conclusion

Minnesota Power continues to be active and engaged in the developments surrounding a modernized electric grid. Minnesota Power will assess the performance and cost effectiveness of current projects and continue investment in those deemed beneficial to the Company and its customers. The Company will also pursue promising investments as additional advancements are achieved in Smart Grid technology. Minnesota Power has gained knowledge from being involved in the SGIG process and trusts that advancements on the grid will continue to produce positive results for customers and utilities alike.

Form No. 6102 Rev. 7/10

Subject: HYN-1, HYN-2 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: HYN-1, HYN-2

Date Out:	1/14/2013	Date In:	1/14/2013
Time Out:	11:36	Time In:	20:36

Duration: 540 MINUTES OR 9 HOURS

Number of Customers Affected: 1162

For information about this alert, contact: Stefanie Hayes
218-720-2764
Stefanie Hayes@mnpower.com

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

Communities Affected: HOYT LAKES

Major Customers:

Cause: Damage to a transformer at the substation - brought in a mobile substation in order to restore outage.

Follow-Up:

Brianna Asperheim (MP)

From: Shari Smith (MP)

Sent: Sunday, January 20, 2013 7:01 AM

To: MPUC Outage Notification

Subject: MPUC Outage Report form 6102

Subject: Feeder Lockout

Outage Notice:

Distribution System Status Outage Notification

Feeder/Bus #: NAS-319, 314, 318

Date Out:	01/20/13	Date In:	01/20/13
Time Out:	04:37 am	Time In:	05:42 am

Duration: 1hr 5mins

Number of Customers Affected: 1553

For information about this alert, contact:

Stefanie Hayes
218-720-2764
Stefanie Hayes@mnpower.com

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

Communities Affected: Pengilly, Nashwauk, Marble, Calumet

Major Customers: na

Cause: unknown

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: VRG-308 Feeder Lockout

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: VRG-308

Date Out:	02/01/13	Date In:	02/01/13
Time Out:	02:27 pm	Time In:	03:41 pm

Duration: 1 hr, 14 minutes

Number of Customers Affected: 572

For information about this alert, contact: Stefanie Hayes
218-720-2764
Stefanie Hayes@mnpower.com

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

Communities Affected: Hibbing, Kinney

Major Customers: na

Cause: unknown, breaker opened in substation

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: 541 Feeder lockout

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: LNG - 541

Date Out:	03/09/13	Date In:	03/09/13
Time Out:	09:45 AM	Time In:	11:02 AM

Duration: 1hr 17 minutes (Partial Restore of Approximately 1780customers) Full restoration at 13:25)

Number of Customers Affected: 1812

For information about this alert, contact: Stefanie Hayes
218-720-2764
Stefanie Hayes@mnpower.com

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

Communities Affected: Park Rapids

Major Customers: na

Cause: Burnt Crossarm, Hwy 34 Park Rapids

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: RGV-254 | Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: RGV-254

Date Out:	4/11/2013	Date In:	4/11/2013
Time Out:	5:29 a.m.	Time In:	8:25 a.m.

Duration: 176 minutes

Number of Customers Affected: 2049

For information about this alert, contact: Stefanie Hayes
218-720-2764
Stefanie Hayes@mnpower.com

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

Communities Affected: Duluth

Major Customers:

Cause: Tree on a wire - Feeder lockout. Tree on line located at 42 W Toledo Street in Duluth

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: LPR-535 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: LPR-535

Date Out:	05/15/2013	Date In:	05/15/2013
Time Out:	7:27 PM	Time In:	8:55 PM

Duration: 1hr, 28min

Number of Customers Affected: 705

For information about this alert, contact: Stefanie Hayes
218-720-2764
Stefanie Hayes@mnpower.com

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

Communities Affected: Long Prairie

Major Customers:

Cause: Trip coil malfunction at the Long Prairie 115 substation

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: SNT 6531

Date Out:	5/18/13	Date In:	5/18/13
Time Out:	6:00 PM	Time In:	10:15 PM

Duration: 4 hrs, 15 minutes

Number of Customers Affected: 1235

For information about this alert, contact: Stefanie Hayes
218-720-2764
Stefanie Hayes@mnpower.com

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

Communities Affected: Sandstone, Hinkley

Major Customers: na

Cause: 2 Blown Lightning Arresters at Substation

Follow-Up: Correction to reflect feeder outage from 5/18

Form No. 6102 Rev. 7/10

Subject: Col-242 Feeder Lockout

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: COL-242

Date Out:	6/16/2013	Date In:	6/16/2013
Time Out:	5:37 PM	Time In:	8:12 PM

Duration: 2hr, 35 min

Number of Customers Affected: 2470

For information about this alert, contact:
Stefanie Hayes
218-720-2764
Stefanie Hayes@mnpower.com

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

Communities Affected: Duluth

Major Customers: N/A

Cause: Tree took down primary wire

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: RGV-251/256 Feeder Lockout

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: RGV-251/256

Date Out:	6/16/2013	Date In:	6/16/2013
Time Out:	6:35 PM	Time In:	9:00 PM (partial)

Duration: 2hrs, 25 minutes

Number of Customers Affected: 1704

For information about this alert, contact: Stefanie Hayes
218-720-2764
Stefanie Hayes@mnpower.com

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

Communities Affected: Duluth

Major Customers: N/A

Cause: Tree took down 3 phast pole

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: BAX-531, GLL-1, GLL-2, HID-1 FEEDER LOCKOUT Final Notice

Outage Notice:

Distribution System Status Outage Notification

Feeder/Bus #: BAX-531, GLL-1, GLL-2, HID-1

Date Out:	6/20/2013	Date In:	6/20/2013
Time Out:	5:33 AM	Time In:	6:38 AM

Duration: 1HR, 5 MIN

Number of Customers Affected: 1817

For information about this alert, contact: Stefanie Hayes
218-720-2764
Stefanie Hayes@mnpower.com

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

Communities Affected: NISSWA, BRAINERD

Major Customers: 0

Cause: POSSIBLY WEATHER

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: HBB-515/SLS-1 Feeder Lockout

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: HBB-515/SLS-1

Date Out:	6/23/2013	Date In:	6/23/2013
Time Out:	09:20 AM	Time In:	11:30 AM

Duration: 1 hr, 50 minutes

Number of Customers Affected: 826

For information about this alert, contact: Stefanie Hayes
218-720-2764
Stefanie Hayes@mnpower.com

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

Communities Affected: Menagha, Sebeka, Nimrod

Major Customers: N/A

Cause: Burnt up Insulator /Pole Fire

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: MAT-420 Feeder Lockout

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: MAT-420

Date Out:	6/23/2013	Date In:	6/23/2013
Time Out:	08:40 AM	Time In:	12:35 PM

Duration: 3 hrs, 55 minutes (Partial restore at 11:10 AM)

Number of Customers Affected: 513

For information about this alert, contact: Stefanie Hayes
218-720-2764
Stefanie Hayes@mnpower.com

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

Communities Affected: Carlton, Barnum, Mahtowa

Major Customers: N/A

Cause: Broken switch gear in substation

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: WNT-33 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: WNT-33

Date Out:	06/25/2013	Date In:	06/25/2013
Time Out:	4:33 PM	Time In:	5:44 PM

Duration: 1:11

Number of Customers Affected: 575

For information about this alert, contact: Stefanie Hayes
218-720-2764
Stefanie Hayes@mnpower.com

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

Communities Affected: Ely, Winton

Major Customers:

Cause: Crows in the Winton Sub 6 (Lake Country Power) substation.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: FIF-260 Feeder Lockout

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: FIF-260

Date Out: 07/10/2013
Time Out: 5:15 PM

Date In: 7/10/2013
Time In: 8:05 PM

Duration: 2hrs, 50 minutes

Number of Customers Affected: 897

For information about this alert, contact: Stefanie Hayes
218-720-2764
Stefanie Hayes@mnpower.com

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

Communities Affected: Duluth

Major Customers: NA

Cause: Bad Underground Cable

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: Feeder Lockout

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: SBT 4301, 4302 & SBL 4303

Date Out:	08/18/13	Date In:	08/18/13
Time Out:	08:00pm	Time In:	10:17pm

Duration: 2hr 17mins

Number of Customers Affected: 1160

For information about this alert, contact: Stefanie Hayes
218-720-2764
Stefanie Hayes@mnpower.com

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

Communities Affected: Silver Bay

Major Customers: na

Cause: unknown

Follow-Up: Issue is isolated on 42 Line between SilverBay Hillside 77 & UPA Waldo 88 to be repaired 8/19/13

Form No. 6102 Rev. 7/10

Subject: PQT-507 Feeder Lockout

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: PQT-507

Date Out:	08/26/2013	Date In:	08/26/2013
Time Out:	5:59 PM	Time In:	8:57 PM

Duration: 2hrs, 58 minutes

Number of Customers Affected: 1157

For information about this alert, contact: Stefanie Hayes
218-720-2764
Stefanie Hayes@mnpower.com

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

Communities Affected: Pequot Lakes/Pine River

Major Customers: NA

Cause: Trees took down primary wire (Storms in area)

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: 59 Line Outage

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: BAR-6241, DEN-6431, FIN-6511, SNT-6531

Date Out:	8/31/13	Date In:	9/1/13
Time Out:	19:59pm	Time In:	03:05am

Duration: 8hr, 6min

Number of Customers Affected: 2343

For information about this alert, contact: Stefanie Hayes
218-720-2764
Stefanie Hayes@mnpower.com

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

Communities Affected: Willow River, Sturgeon Lake, Finlayson,

Major Customers: na

Cause: Possible cause lightning. 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 #: VRG 311

Date Out:	09/19/2013	Date In:	09/19/2013
Time Out:	08:42	Time In:	10:59

Duration: 2hrs 17mins

Number of Customers Affected: 782

For information about this alert, contact: Stefanie Hayes
218-720-2764
Stefanie Hayes@mnpower.com

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

Communities Affected: Virginia, Eveleth, W Eveleth, Iron

Major Customers: United Taconite Spruce Pit Pump

Cause: Weather, lightning

Follow-Up: na

Form No. 6102 Rev. 7/10

Subject: VRG sub outage

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: VRG-301,302,303,304,305,306,311

Date Out:	10/11	Date In:	10/11
Time Out:	18:52	Time In:	20:40

Duration: 108 minutes

Number of Customers Affected: 2270

For information about this alert, contact: Stefanie Hayes
218-720-2764
Stefanie Hayes@mnpower.com

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

Communities Affected: Eveleth, Gilbert, McKinley, Iron, Forbes, Mt. Iron

Major Customers: United Tac. Giants Ridge

Cause: Virginia sub transformer #3 was hit by lightening

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: VRG-311 Feeder Lockout

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: VRG-311

Date Out:	11/02/13	Date In:	11/2/13
Time Out:	02:00 am	Time In:	03:04 am

Duration: 64 minutes

Number of Customers Affected: 908

For information about this alert, contact:
Stefanie Hayes
218-720-2764
Stefanie Hayes@mnpower.com

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

Communities Affected: Eveleth, Iron

Major Customers: na

Cause: Vehicle accident at intersecion of Highway 101 and Mine Crossing.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: DEN-6431 Outage

Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: Den - 6431

Date Out:	12/04	Date In:	12/04
Time Out:	14:25	Time In:	15:41

Duration: 1hour, 16 minutes

Number of Customers Affected: 1127

For information about this alert, contact: Stefanie Hayes
218-720-2764
Stefanie Hayes@mnpower.com

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

Communities Affected: Sturgeon Lake, Willow River, Moose Lake

Major Customers: NA

Cause: Tree fell (Due to weather, snow, wind) onto primary wire, tripped feeder

Follow-Up: NA

Form No. 6102 Rev. 7/10

Subject: Gry-201 Feeder Lockout

Outage Notice: First Notice

Distribution System Status Outage Notification

Feeder/Bus #: Gry-201

Date Out:	12/04	Date In:	
Time Out:	17:40	Time In:	

Duration: 1hour, 20 minutes

Number of Customers Affected: 1305

For information about this alert, contact: Stefanie Hayes
218-720-2764
Stefanie Hayes@mnpower.com

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

Communities Affected: Gary neighborhood - Duluth

Major Customers: NA

Cause: Weather - Snow Ice

Follow-Up: NA

Form No. 6102 Rev. 7/10

Subject: COL-240 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: COL-240

Date Out:	12/5/13	Date In:	12/5/13
Time Out:	17:08	Time In:	18:30

Duration: 1hr 22min

Number of Customers Affected: 3494

For information about this alert, contact: Stefanie Hayes
218-720-2764
Stefanie Hayes@mnpower.com

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

Communities Affected: Duluth

Major Customers: na

Cause: Weather, load.

Follow-Up:

Form No. 6102 Rev. 7/10

Subject: COL-242 Outage Notice: Final Notice

Distribution System Status Outage Notification

Feeder/Bus #: COL-242

Date Out:	12/5/13	Date In:	12/5/13
Time Out:	02:56 AM	Time In:	04:11 AM

Duration: 1hr 15min

Number of Customers Affected: 2470

For information about this alert, contact: Stefanie Hayes
218-720-2764
Stefanie Hayes@mnpower.com

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

Communities Affected: Duluth

Major Customers: NA

Cause: Tree leaning on primary.

Follow-Up:

STATE OF MINNESOTA)
) ss
COUNTY OF ST. LOUIS)

AFFIDAVIT OF SERVICE VIA ELECTRONIC FILING

Kristie Lindstrom of the City of Duluth, County of St. Louis, State of Minnesota, says that on the 1st day of April, 2014, she served Minnesota Power's Annual Safety, Reliability and Service Quality Report to the Minnesota Public Utilities Commission and the Energy Resources Division of the Minnesota Department of Commerce via electronic filing. The remaining parties on the attached service list were served as so indicated on the list.

/s/ Kristie Lindstrom

____

Subscribed and sworn to before
me this 1st day of April, 2014.

/s/ Mary K Johnson

____

Notary Public - Minnesota
My Commission Expires January 31, 2016

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Christopher	Anderson	canderson@allete.com	Minnesota Power	30 W Superior St Duluth, MN 558022191	Electronic Service	Yes	GEN_SL_Minnesota Power_GEN_SL_Minnesota Power_Minnesota Power General Service List
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	Yes	GEN_SL_Minnesota Power_GEN_SL_Minnesota Power_Minnesota Power General Service List
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 500 Saint Paul, MN 551012198	Electronic Service	Yes	GEN_SL_Minnesota Power_GEN_SL_Minnesota Power_Minnesota Power General Service List
Elizabeth	Goodpaster	bgoodpaster@mncenter.org	MN Center for Environmental Advocacy	Suite 206 26 East Exchange Street St. Paul, MN 551011667	Electronic Service	No	GEN_SL_Minnesota Power_GEN_SL_Minnesota Power_Minnesota Power General Service List
Burl W.	Haar	burl.haar@state.mn.us	Public Utilities Commission	Suite 350 121 7th Place East St. Paul, MN 551012147	Electronic Service	No	GEN_SL_Minnesota Power_GEN_SL_Minnesota Power_Minnesota Power General Service List
Margaret	Hodnik	mhodnik@mnpower.com	Minnesota Power	30 West Superior Street Duluth, MN 55802	Electronic Service	No	GEN_SL_Minnesota Power_GEN_SL_Minnesota Power_Minnesota Power General Service List
Lori	Hoyum	lhoyum@mnpower.com	Minnesota Power	30 West Superior Street Duluth, MN 55802	Electronic Service	No	GEN_SL_Minnesota Power_GEN_SL_Minnesota Power_Minnesota Power General Service List
Michael	Krikava	mkrikava@briggs.com	Briggs And Morgan, P.A.	2200 IDS Center 80 S 8th St Minneapolis, MN 55402	Electronic Service	No	GEN_SL_Minnesota Power_GEN_SL_Minnesota Power_Minnesota Power General Service List
Douglas	Larson	dlarson@dakotaelectric.com	Dakota Electric Association	4300 220th St W Farmington, MN 55024	Electronic Service	No	GEN_SL_Minnesota Power_GEN_SL_Minnesota Power_Minnesota Power General Service List
James D.	Larson	james.larson@avantenergy.com	Avant Energy Services	220 S 6th St Ste 1300 Minneapolis, MN 55402	Electronic Service	No	GEN_SL_Minnesota Power_GEN_SL_Minnesota Power_Minnesota Power General Service List
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	Yes	GEN_SL_Minnesota Power_GEN_SL_Minnesota Power_Minnesota Power General Service List

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Susan	Ludwig	sludwig@mnpower.com	Minnesota Power	30 West Superior Street Duluth, MN 55802	Electronic Service	No	GEN_SL_Minnesota Power_GEN_SL_Minnesota Power_Minnesota Power General Service List
Pam	Marshall	pam@energycents.org	Energy CENTS Coalition	823 7th St E St. Paul, MN 55106	Paper Service	No	GEN_SL_Minnesota Power_GEN_SL_Minnesota Power_Minnesota Power General Service List
David	Moeller	dmoeller@allete.com	Minnesota Power	30 W Superior St Duluth, MN 558022093	Electronic Service	Yes	GEN_SL_Minnesota Power_GEN_SL_Minnesota Power_Minnesota Power General Service List
Andrew	Moratzka	apmoratzka@stoel.com	Stoel Rives LLP	33 South Sixth Street Suite 4200 Minneapolis, MN 55402	Electronic Service	No	GEN_SL_Minnesota Power_GEN_SL_Minnesota Power_Minnesota Power General Service List
Thomas	Scharff	thomas.scharff@newpagecorp.com	New Page Corporation	P.O. Box 8050 610 High Street Wisconsin Rapids, WI 544958050	Electronic Service	No	GEN_SL_Minnesota Power_GEN_SL_Minnesota Power_Minnesota Power General Service List
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_GEN_SL_Minnesota Power_Minnesota Power General Service List
Eric	Swanson	eswanson@winthrop.com	Winthrop Weinstine	225 S 6th St Ste 3500 Capella Tower Minneapolis, MN 554024629	Electronic Service	No	GEN_SL_Minnesota Power_GEN_SL_Minnesota Power_Minnesota Power General Service List
Karen	Turnboom	karen.turnboom@newpagecorp.com	NewPage Corporation	100 Central Avenue Duluth, MN 55807	Electronic Service	No	GEN_SL_Minnesota Power_GEN_SL_Minnesota Power_Minnesota Power General Service List
Laurance R.	Waldoch		Lindquist & Vennum	4200 IDS Center 80 South 8th Street Minneapolis, MN 554022274	Paper Service	No	GEN_SL_Minnesota Power_GEN_SL_Minnesota Power_Minnesota Power General Service List