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April 1, 2013

Interstate Power and Light Company An Alliant Energy Company

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Dr. Burl W. Haar, Executive Secretary Minnesota Public Utilities Commission 121 Seventh Place East, Suite 350 St. Paul, MN 55101-2147

RE: Interstate Power and Light Company Docket No. E001/M-13-____ 2012 Annual Safety, Reliability, and Service Quality Report and Proposed SAIFI, SAIDI and CAIDI Indices for 2013

Dear Dr. Haar:

Enclosed for e-filing with the Minnesota Public Utilities Commission please find Interstate Power and Light Company's (IPL) Annual Report in compliance with Minn. Rules 7826.0400, 7826.0500, and 7826.1300. This annual report presents IPL's performance for 2012 and proposes reliability indices for 2013 pursuant to Minn. Rule 7826.0600, subp. 1.

Copies of this filing have been served on the Minnesota Department of Commerce, Division of Energy Resources, the Minnesota Office of Attorney General – Residential and Small Business Utilities Division, and the attached service list.

Respectfully submitted,

<u>/s/ Kent M. Ragsdale</u> Kent M. Ragsdale Managing Attorney - Regulatory

KMR/tao Enclosures

cc: Service List

STATE OF MINNESOTA

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Beverly Jones Heydinger	Chair
David C. Boyd	Commissioner
Nancy Lange	Commissioner
J. Dennis O'Brien	Commissioner
Betsy Wergin	Commissioner

AFFIDAVIT OF SERVICE

STATE OF IOWA)) ss.

COUNTY OF LINN

Tonya A O'Rourke being first duly sworn on oath deposes and states:

That on the 1st day of April, 2013, copies of the foregoing Affidavit of Service, together with Interstate Power and Light Company's Annual Safety, Reliability and Service Quality Report and Proposed SAIFI, SAIDI and CAIDI Indices for 2013 were served upon the parties on the attached service list, by e-filing, overnight delivery, electronic mail, and/or first-class mail, proper postage prepaid from Cedar Rapids, Iowa.

<u>/s/ Tonya A O'Rourke</u> Tonya A O'Rourke

Subscribed and Sworn to Before Me this 1st day of April, 2013.

/s/ Kathleen J. Faine

Kathleen J. Faine Notary Public My Commission Expires on February 20, 2015

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STATE OF MINNESOTA

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Beverly Jones Heydinger David C. Boyd Nancy Lange J. Dennis O'Brien Betsy Wergin

Chair Commissioner Commissioner Commissioner Commissioner

IN THE MATTER OF INTERSTATE POWER AND LIGHT COMPANY'S 2012 ANNUAL SAFETY, RELIABILITY AND SERVICE QUALITY REPORT AND PROPOSED SAIFI, SAIDI AND CAIDI INDICES FOR 2013

DOCKET NO. E001/M-13-____

SUMMARY OF FILING

Please take notice that on April 1, 2013, Interstate Power and Light Company (IPL), filed with the Minnesota Public Utilities Commission (Commission) its Annual Safety, Reliability and Service Quality Report (Report) pursuant to Minn. Rules 7826.0400, 7826.0500 and 7826.1300, and pursuant to Minn. Rule 7826.0600, subp. 1, IPL proposes SAIFI, SAIDI and CAIDI indices for 2013. IPL also provides information as ordered by the Commission's January 12, 2012 Order in Docket No. E001/M-11-277, and also notes that included within the Report is the Smart Grid Report required by the Commission's June 5, 2009 and March 4, 2011 Orders in Docket No. E999/CI-08-948.

STATE OF MINNESOTA

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Beverly Jones Heydinger David C. Boyd Nancy Lange J. Dennis O'Brien Betsy Wergin

Chair Commissioner Commissioner Commissioner

INTERSTATE POWER AND LIGHT COMPANY'S 2012 ANNUAL REPORT AND PROPOSAL

COMES NOW, Interstate Power and Light Company (IPL), and hereby files with the Minnesota Public Utilities Commission (Commission) its Annual Safety, Reliability and Service Quality Report (Report) pursuant to Minn. Rules 7826.0400, 7826.0500 and 7826.1300 and pursuant to Minn. Rule 7826.0600, subp. 1, IPL proposes SAIFI, SAIDI and CAIDI indices for 2013. IPL also provides information as ordered by the Commission's January 12, 2012 Order in Docket No. E001/M-11-277, and also notes that included within the Report is the Smart Grid Report required by the Commission's June 5, 2009 and March 4, 2011 Orders in Docket No. E999/CI-08-948.

A. <u>Summary of Filing</u>

A one-paragraph summary of the filing accompanies this petition pursuant to Minn. Rules pt. 7829.1300, subp. 1.

B. <u>Service on Other Parties</u>

Pursuant to Minn. Rules pt. 7829.1300, subp. 2, IPL has served a copy of this petition on the Minnesota Department of Commerce, Division of Energy Resources, the Minnesota Office of the Attorney General-Residential and Small Business Utilities Division and a summary of this filing on all parties on IPL's miscellaneous electric service list.

C. <u>General Filing Information</u>

Pursuant to Minn. Rules pt. 7829.1300, subp. 3, IPL provides the following required information.

1. Name, Address, and Telephone Number of Utility

Interstate Power and Light Company Alliant Tower 200 First Street SE PO Box 351 Cedar Rapids, Iowa 52406-0351 (800) 822-4348

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

Kent M. Ragsdale Managing Attorney – Regulatory Alliant Tower 200 First Street SE PO Box 351 Cedar Rapids, Iowa 52406-0351 (319) 786-7765

D. Date of Filing and Date Reliability Indices Will Take Effect

The date of this filing is April 1, 2013. IPL requests that the Commission accept this annual report on IPL's performance for 2012. Additionally, IPL requests that the proposed reliability indices be approved for the calendar year 2013.

E. <u>Statute Controlling Schedule for Processing the Filing</u>

There is no specific statute for processing this filing. Pursuant to Minn. Rules. 7829.1400, initial comments on a miscellaneous tariff filing are due within 30 days of the filing, with replies due 10 days thereafter.

F. <u>Utility Employee Responsible for Filing</u>

Kent M. Ragsdale Managing Attorney – Regulatory Alliant Tower 200 First Street, SE PO Box 351 Cedar Rapids, Iowa 52406-0351 (319) 786-7765

Robyn Woeste Manager - Regulatory Affairs Alliant Tower 200 First Street, SE PO Box 351 Cedar Rapids, Iowa 52406-0351 (319) 786-4384

WHEREFORE, IPL respectfully requests the Commission accept this annual

Report and approve IPL's proposed reliability indices for 2013.

Dated this 1st day of April 2013.

Respectfully submitted,

INTERSTATE POWER AND LIGHT COMPANY

By <u>/s/ Kent M. Ragsdale</u> Kent M. Ragsdale Managing Attorney - Regulatory Alliant Energy Corporate Services, Inc. 200 First Street S.E. P.O. Box 351 Cedar Rapids, IA 50406-0351 (319) 786-7765 KentRagsdale@alliantenergy.com

Interstate Power and Light Company

2012 Annual Electric Safety, Reliability and Service Quality Report

April 1, 2013

INTERSTATE POWER AND LIGHT COMPANY

2012 ANNUAL REPORT

TABLE OF CONTENTS

IPL 2012 ANNUAL ELECTRIC SAFETY, RELIABILITY and SERVICE QUALITY REPORT EXECUTIVE SUMMARY	.5
PART 7826.0500, SUBPART 1 - RELIABILITY REPORTING REQUIREMENTS	25
PART 7826.0400 – SAFETY STANDARDS	51
PART 7826.0600, SUBPART 1 - RELIABILITY PERFORMANCE STANDARDS	64
PART 7826.1300 - ANNUAL SERVICE QUALITY REPORT	67
IPL 2012 SMART GRID 8	34

IPL

Annual Electric Safety, Reliability and Service Quality Report

Executive Summary

Interstate Power and Light Company 2012 Annual Electric Safety, Reliability and Service Quality Report Executive Summary

<u>Reliability</u>

Interstate Power and Light Company (IPL) remained focused on improving reliability and proactively managing the electric distribution system in 2012 through the use of Zone Reliability Teams (ZRTs), continued implementation of an effective vegetation management program and the continued use and improvement of the proactive Life Extension process.

In 2012, IPL met the System Average Interruption Duration Index (SAIDI) and Customer Average Interruption Duration Index (CAIDI) goals in the Albert Lea Zone, which means most customers experienced shorter outages overall. However, IPL did not meet the SAIDI, System Average Interruption Frequency Index (SAIFI) or CAIDI goals for 2012 in the Winnebago Zone nor the SAIFI goal for the Albert Lea Zone. This was due, in part, to an increase in the number of, planned outages to perform proactive improvements on the system in both Operating Zones. In other words, planned outages that affected the 2012 statistics were intentionally taken in order to improve longer term reliability performance.

In 2012, IPL reviewed the engineering and installation guidelines for lightning protection with all Field Engineers and construction crews as part of the

review of the life extension process. This is in an effort to ensure that lightning protection is installed in all areas recommended by the Distribution Engineers using best industry practices. Over time it is believed that this will reduce some of the variability in the annual reliability results from weather related events.

IPL continues to proactively manage the electrical distribution system impacts from severe weather which continues to be the single largest cause of variability in reliability results over time. IPL continues to explore and implement the latest in industry best practices to mitigate the effects of severe weather on the reliability of the system.

Beginning in 2013, IPL will participate in an Electric Power Research Institute (EPRI) initiative to research new and better ways in which to make the distribution electric grid be more resilient. This is an industry-wide effort focused on hardening the system and developing ways to restore the power more quickly after major outage events.

Service Quality

Customer Satisfaction Survey

To provide quality service, IPL regularly surveys its customers to gather feedback about their experiences with IPL. With after-call surveys, customers are asked to rate IPL's customer service performance by answering a few questions. The after-call surveys are conducted based on system randomization.

In 2012, after-call surveys were completed by 63,013 customers on an IPL company-wide basis that includes customers from both Minnesota and Iowa. A

focal point of the interview is to assess how well the agent handled the customer's call. A typical question reads as follows:

Overall I am satisfied with the way the call was handled today. Please score between 1 for "Strongly Disagree" and 5 for "Strongly Agree".

In 2012, customers have expressed a very high level of satisfaction with IPL's agents handling calls to the customer's satisfaction registering an overall favorable response of 95.16%.

IPL Customer Service Center Call Answer Time

In 2012 the call center handled 63,939 calls and 88.4% of the Minnesota customer calls were answered in 20 seconds or less. In addition, 91.73% of calls reporting outages were answered in 20 seconds or less. Continuing to use dedicated call center agents to handle Minnesota call volume allowed IPL to exceed the regulatory requirement of 80% of calls answered within 20 seconds on an annual basis. See Graph 1 below for monthly statistics on answer times.



Graph 1 – Call Answer Time Performance

IPL Customer Complaints

Customer complaints received by IPL have been positively trending downward as shown in Graph 2. Residential complaints accounted for approximately 88% of the total complaints. The top two categories of complaints in 2012 were property damage inquiries at 14% and tree trimming concerns at 11%.

Graph 2 – Customer Complaint Call Trend



Discussion – Reliability

In 2012, IPL met the System Average Interruption Duration Index (SAIDI) and Customer Average Interruption Duration Index (CAIDI) goals in the Albert Lea Zone, which means most customers experienced shorter outages overall. However, IPL did not meet the SAIDI, System Average Interruption Frequency Index (SAIFI) or CAIDI goals for 2012 in the Winnebago Zone nor the SAIFI goal for the Albert Lea Zone. IPL attributes missing these reliability goals to an increase in the number of, and more consistent reporting of, planned outages to perform proactive improvements on the system in both Operating Zones. In 2012 company-planned outages taken to perform maintenance on electric facilities accounted for 20% of all outage minutes customers experienced. This is almost entirely due to the improvements made during the life-extension process projects. In most cases, crews needed to take a short outage in order to replace identified equipment and install wildlife protection during the lifeextension project.

Additionally in 2012, IPL clarified with all personnel the requirements for reporting scheduled outages to the dispatch center for recording. Previously short duration scheduled outages were not being consistently reported and recorded. In both operating Zones these life-extension related outages did not contribute significantly to the SAIDI and CAIDI indices. Due to the more consistent reporting of scheduled outages, IPL believes that these planned outages contributed significantly to IPL missing its SAIFI indices goal for 2012.

Affecting the SAIDI and CAIDI metrics for the Winnebago Zone was a planned outage that was needed to replace a failing substation transformer that was identified through IPL's predictive maintenance testing. This outage accounted for a third of all the outage minutes recorded in the Winnebago Zone for 2012. IPL was able to schedule the outage with customers and proactively eliminate a failing piece of equipment by using industry predictive maintenance best practices on the transformer. The scheduled outage resulted in far less outage time for customers than an outage that would have occurred if the transformer failed unexpectedly. Overall, planning maintenance outages have

been well received by customers and have not resulted in an increase in customer complaints.

<u>Metrics</u>

IPL continues to measure its own reliability performance using CAIDI, SAIFI and SAIDI indices. Because these are industry standards, CAIDI, SAIFI and SAIDI are good metrics to measure the reliability of the distribution system. IPL's future use of Momentary Average Interruption Frequency Index (MAIFI) will be discussed later in this report, while there are no current plans to use Average Service Availability Index (ASAI) at IPL.

The following definitions are the standard IEEE definitions for the five reliability indices.

System Average Interruption Frequency Index

SAIFI = Total Number of Customers Interrupted Total Number of Customers Served

Customer Average Interruption Duration Index

CAIDI = <u>Sum of All Customer Interruption Durations</u> Total Number of Customer Interruptions

System Average Interruption Duration Index

SAIDI = <u>Sum of All Customer Interruption Durations</u> Total number of Customers Served

Average Service Availability Index

- ASAI = <u>Customer Hours Service Availability</u> Customer Hours Service Demand
- ASAI = 8760 SAIDI(24 Hours/Day x 365 Days/Year = 8,760 Hours/Year)8760(Note: SAIDI is in Hours or SAIDI (minutes)/60)

Momentary Average Interruption Frequency Index

MAIFI = <u>Total Number of Customer Momentary Interruptions</u>

Total Number of Customers Served

Although IPL missed some goals as established in the Commission's Order *Approving Reports, Setting 2012 Reliability Standards, and Setting Filing Requirements,* issued on December 20, 2012, in Docket No. E-001/M-12-320, IPL strives to provide reliable power to its customers. Reliability indices are shown in the following graphs to illustrate 2012 results for all outage minutes calculated per the IEEE standards as required by the Commission. IPL is also including reliability indices calculated after removing the planned outage minutes to illustrate how the planned outages can negatively affect the indices. Additionally, Graphs 7 and 8 illustrate that outages caused by weather, animals, equipment failures, and trees are actually decreasing as a result of the pro-active work IPL is implementing during the planned outages.

The following graphs highlight IPL's reliability indices over the past five years and include all outage causes.







Graph 4 – Historical SAIDI and SAIFI trends Winnebago Zone

Graph 5 – Historical CAIDI trends Albert Lea Zone





Graph 6 – Historical CAIDI trends Winnebago Zone

Table 1 – 2012 Reliability Indices, Goals vs Actuals, excluding Planned Outages

Zone	SAIDI	SAIFI	CAIDI
Albert Lea - Goal	80.3	1.02	78.44
Albert Lea - Actual	65.6	1.00	67.3
Winnebago - Goal	59.81	0.9	66.17
Winnebago - Actual	65.2	0.7	93.4

Removing planned outage minutes for preventative maintenance work from the reliability calculations results in the Albert Lea zone meeting all of its goals and the Winnebago zone achieving its SAIFI goal. IPL believes these results more accurately reflect the reliability of IPL's electric system and its efforts to reduce *unplanned* outages for its Minnesota customers.

Graph 7 – Albert Lea Zone trend excluding planned outages



Graph 8 – Winnebago Zone trend excluding planned outages



Graph 9 – Albert Lea Zone trend excluding planned outages



Graph 10 – Winnebago Zone trend excluding planned outages



Momentary Average Interruption Frequency Index (MAIFI)

As discussed in the 2010 and 2011 Annual Electric Safety, Reliability, and Service Quality Reports, IPL currently has no automated or efficient process to record and track this information. In 2013, IPL plans to install distribution automation equipment, capable of SCADA reporting, at several of the larger substations located in Minnesota. IPL also made efforts to collect MAIFI data manually from all electronic substation reclosers in 2012 in the Albert Lea Zone. This activity was undertaken as an exercise to check the possibility of reporting and recording MAIFI information on a much larger scale. This process involves an engineer traveling to each substation that has an electronic recloser control. A laptop computer is used to download the information and a report is then generated from the information. It was determined that this effort will not be expanded due to the manual and time consuming nature of gathering the information. Several important takeaways were derived from this effort:

- Feedback has been provided to the recloser control manufacturer to make the downloaded information more user friendly and in a more concise report type format. Currently the download format requires hours of manual sorting and filtering to produce a concise report.
- 2. The manual download approach will continue to be used on a case-bycase basis where there is a reliability issue on the circuit. Detailed information on the outage can be gathered and studied by the engineers to aid in determining the root cause of a problem.

In the future it is planned that an expanded distribution SCADA system will allow real time access to recloser operations. This may also include the ability to log for reporting purposes MAIFI related information.

Outage Causes and Worst Performing Circuits

IPL has identified the major causes of outages and its worst performing circuits. Planned outages taken to perform maintenance work accounts for 20% of all outage minutes experienced by customers in 2012 as previously mentioned. Weather conditions such as wind and lightening continue to be a major factor of outages and was determined to be the second largest factor of outages.



Graph 11 – Top Outage Cause Categories

The worst performing circuit in the Albert Lea zone was the WEST1163 feeder that experienced nineteen interruptions, and in the Winnebago Zone, the worst performing circuit was the WBSO1252 feeder with five interruptions in 2012. These circuits and IPL's actions relative to their performance are more fully discussed under Section 7826.0500 of this report, Reliability Reporting Requirements.

2012 Activities Accomplished

In 2012 the ZRTs identified numerous reliability improving solutions both reactive and proactive. Table 2 below is a snapshot of the ongoing Action Items list from one of the ZRT groups. Although just a brief portion of the overall ZRT involvement and actions, it is included here to support the theme of the continuous nature of the ZRT's work in monitoring and improving reliability.

Issue	Resolution	Date Due
1. Remind crews about installing wildlife protection	Ongoing reminder to emphasize installation	Ongoing
Remind crews on lightning protection and informing the Team of repeat outage issues.	Ongoing reminder for installation	Ongoing
3. Review latest "3 or more" report from Linda for opportunities	Recommend and implement immediate solutions to eliminate any chance of a 4th outage occurrence.	Ongoing
 Additional wildlife protection and rock; Stew 6th St sub 	Rock is done - guards needed yet.	May 2013
5. Schedule solution screening for Brownsdale/G Meadow/Elkton subs	Evaluate for conversion to 25KV and elimination of the 4KV subs	May 2013
6. Schedule visit to Stewartville for 2nd river crossing scope	Add 2nd feeder segment to improve reliability to industrial park in Stewartville	April 2013

The ZRTs continue to meet face-to-face quarterly and more often on a case-bycase basis as reliability issues and outages occur on the system. In essence, the group functions real-time throughout the year to monitor system operation, improve outage response and reliability. Below in Table 3 is a snapshot of the completed actions from one of the ZRTs for 2012.

Issue	Resolution	Date Due
1. Brian to get Elgin sub costs to Al/Miriam	Not needed - sub will be eliminated during Plainview 13.8KV conversion.	March 1st
2. Miriam to pull 11-17 trip data every 60 days for team to ensure momentary outage issue has been resolved	done as requested	60 days
3. Miriam to check on status of 11-02 repairs	11-02 repaired	2/24/2012
4. Kevin to contact trimmers to get extra width along CR 17	trimming completed	2/24/2012
5. Correct Dover sub outage report - device/comments not correct	Note sent to DDC - changes made to report	5/15/2012
6. S. Broadway sub LTC repair status?	Unit will be scrapped - new sub in 2014	5/18/2012
7. Amit to update the team on status of Lewiston/LeCenter SCADA	Will be completed in 2013	6/1/2012
8. Monitor Eyota sub loading into 2012	trans replaced with larger unit	Ongoing
9. Push for S Broadway conversion for 2013- 15 budget years	2 feeders approved for 2013, remainder in 2014. New sub in 2014.	Ongoing 2012
10. Look at Brownsdale sub loading - 104% in 2011	Convert to 25KV and eliminate sub - meeting to discuss is scheduled.	12/1/2012
11. Look at transformer load balance in Stewartville	add feeder across the river to balance sub loading	12/1/2012
12. Discuss Elgin/Plainview conversion timeline	Plainview add trans planned for 2018	winter 12/13

Table 3 – ZRT Completed Actions

The above snapshot demonstrates the constant activity that the ZRTs undertake to ensure reliability issues are addressed. It also demonstrates that solutions that are implemented are followed up on to ensure the intended improvements in reliability are met. IPL continued with its ten year inspection, pole treatment and Life-Extension plans in 2012. The projects highlighted below were completed in 2011 and have shown a dramatic improvement in reliability indices as a result of the investment.

Project name	circuit miles	reliability issue	est. cost	2010 SAIDI SAIFI	2011 SAIDI SAIFI	2012 SAIDI SAIFI
ALBERT LEA ZONE						
Owatonna URD 11-35	2	replace cable due to multiple failures	\$142,791	38.02/1.05	20.86/0.13	2.9/0.03
Hayward 11-53	29	life extension rebuild	\$125,000	31.99/1.08	3.16/0.05	0.44/0
Alden 11-30	14	life extension rebuild	\$118,242	103.74/0.25	3.95/0.05	19.5/0.16
Lewiston/Stockton 14-49	13	life extension rebuild	\$170,676	721.87/2.34	90.69/1.22	11.71/0.2
Westside 11-85	16	life extension rebuild	\$125,000	34/0.47	94/0.85	22/0.37
Dover 14-30	23	life extension rebuild	\$149,000	3.8/0.03	0.3/0	3.3/0.04
Dover 14-31	14	life extension rebuild	\$75,000	13/0.15	14/0.27	4.7/0.06
Eastside 11-83	14	life extension rebuild	\$73,000	7.3/0.04	11/0.2	78/0.86
Glenville 11-20	10	life extension rebuild	\$68,000	23/0.22	92/0.84	100/1.01
Chosen Valley 14-71	15	life extension rebuild	\$82,000	17/0.17	30/0.35	61/1.05

Table 4 – Reliability Improvement Projects

WINNEBAGO ZONE						
Magnolia 816 rebuild	3	line condition rebuild	\$325,000	6.9/0.05	71.3/1.05	547/2.74*
Lismore (fed from Magnolia 816)rebuild	5	line condition rebuild	\$432,200	6.9/0.06	71.3/1.06	547/2.74*
Easton 15-75	17	life extension rebuild	\$175,200	237.5/1.78	11/0.14	1.08/0.02
Lamberton 12-51	8	life extension rebuild	\$111,000	0.5/0.01	68.7/1.01	40.17/1.05
Lewisville 15-29	1	life extension rebuild	\$12,000	15.6/0.02	24.7/0.2	1.87/0.01
Hills 12-02	9	life extension rebuild	\$57,530	96/2.12	3.99/0.08	0/0
Blue Earth 15-60	30	life extension rebuild	\$160,281	1 85/0.46 32/0.38		7.2/0.1
Heron Lake 12-31	38	life extension rebuild	\$210,000	9.5/0.1	2.1/0.02	145/1.6
Hanska 15-03	13	life extension rebuild	\$84,500	4/0.03 89/0.34		8.3/0.08
Comfrey 12-46	12	life extension rebuild	\$79,317	13/0.08	0.95/0.02	209/1.13

* Note – The Magnolia and Lismore 2012 reliability indices were impacted by the planned outage required to replace the transformer at the Magnolia substation and are not indicative of the expected performance of the circuits going forward.

As shown in the table above and in a similar table in the 2011 report, the Life-Extension plan undertaken by IPL is proving to dramatically improve reliability in many cases. It also demonstrates the variability that severe weather has on the indices for each feeder from year to year.

IPL continues to use its GAP scoring process to prioritize circuits for a complete rebuild when it is determined they are not eligible for the Life-Extension program. The current detailed Life-Extension procedure calls for poles along the circuit to be ground-line inspected and treated. If 20% or more of the poles, or if

40% or more of the hardware are determined to be in need of replacement, the feeder is evaluated for a complete rebuild versus a Life-Extension project.

Since the fourth quarter of 2011, circuits with two or more preventable tree outages within the last 12 months have been evaluated by Line Clearance to determine the need for trimming. The Line Clearance plan will be based on a three to five year cycle. Circuits may be moved up based on outage information and circuit performance, but no circuits will exceed five years.



Graph 12 – Tree Trimming Expenses with Tree Outages

In addition, IPL inspected 283 miles of distribution line in 2012 and completed repairs on all line patrol deficiencies reported.

2013 Plan

The ZRT will continue to meet and discuss the worst performing circuits identified for 2012 and monitor system performance. Discussion will surround root cause analysis and best course of action solution screening. Work is currently underway to complete the large capital projects that were identified and scoped last year including the Life-Extension work.

IPL has included its Five Year Construction Plan in Section 7826.0500, Subpart 1, which contains a detailed list of projects identified for the Life-Extension program or complete rebuild. Projects on this list may be elevated in priority if reliability of a circuit warrants or upon the recommendation of the ZRT.

MINNESOTA RULES

PART 7826.0500, SUBPART 1 - RELIABILITY REPORTING REQUIREMENTS

2012

ANNUAL REPORT

7826.0500 RELIABILITY REPORTING REQUIREMENTS

Subpart 1. Annual reporting requirements. On or before April 1 of each year, each

utility shall file a report on its reliability performance during the last calendar year.

This report shall include at least the following information:

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

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

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

IPL Response:

Zone	Year	SAIDI goal	SAIDI actual	SAIFI goal	SAIFI actual	CAIDI goal	CAIDI actual
ALBERT LEA	2008	80.30	115.00	1.02	1.29	78.44	89.30
	2009	80.30	68.31	1.02	1.09	78.44	62.52
	2010	80.30	125.70	1.02	1.60	78.44	78.90
	2011	80.30	81.83	1.02	1.01	78.44	80.81
	2012	80.30	75.41	1.02	1.14	78.44	65.98
WINNEBAGO	2008	59.81	49.30	0.90	0.47	66.17	103.99
	2009	59.81	32.63	0.90	0.39	66.17	84.59
	2010	59.81	110.40	0.90	1.20	66.17	88.74
	2011	59.81	90.07	0.90	0.72	66.17	124.40
	2012	59.81	99.31	0.90	0.95	66.17	105.03

Table 1 2008-2012 Reliability Indices, Goals vs Actuals

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

IPL Response:

IPL uses the IEEE 1366 standard for defining a major event, as follows:

- Assign each outage to the date it started
- Calculate daily SAIDI for the five years prior to the current year
- Calculate natural log of each daily SAIDI, using the lowest daily SAIDI figure in place of zero, since zero is indeterminate
- Calculate mean and standard deviation of log data
- Set threshold equal to mean + 2.5 x standard deviation
- Convert log threshold back to SAIDI per day threshold and
- Exclude events from all days with SAIDI per day over threshold

Table 2 Normalized vs Non-Normalized Reliability Indices

		SAIDI	SAIDI Non-	SAIFI	SAIFI Non-	CAIDI	CAIDI Non-
	Year	Normalized	Normalized	Normalized	Normalized	Normalized	Normalized
Albert Lea	2012	75.4	134.7	1.1	1.3	66.0	105.0
Winnebago	2012	99.3	99.3	0.95	0.95	105.0	105.0

In 2012, there were no events in the Winnebago operating zones that qualified for exclusion therefore, all outage events occurring in 2012 were included in the reliability indices being reported herein.

In the Albert Lea operating zone, the March 29th and September 5th outage events qualified for exclusion under the Beta 2.5 method. On March 29th a squirrel caused the substation recloser and transformer to fail at the Plainview substation. On September 5th a severe thunderstorm swept through the entire zone causing system wide damage.

E. An action plan for any failure to meet the reliability standards set forth in part 7826.0600, or an explanation why noncompliance was unavoidable under the circumstances.

IPL Response:

<u>Albert Lea Zone</u>

IPL met its SAIDI and CAIDI goals but did not meet the SAIFI goal in the Albert Lea operating zone for 2012. IPL attributes the SAIFI result of 1.14 versus the goal of 1.02 to a sharp increase in small duration planned outages during life extension work over previous years. These types of outages are necessary to install wildlife protection, replace transformers and other equipment at the customers' premise. In most cases these outages are short duration and affect few numbers of customers so that they do not make a significant contribution to the other indices. Although somewhat subjective, more consistent reporting of these scheduled outages by IPL crews to the dispatch center also contributed slightly to the increase in the total number of these events over previous years.

Winnebago Zone

As reported in the 2011 report, IPL did not meet the goals for SAIDI or CAIDI in the Winnebago Zone primarily due to the seven largest outages being substation lockouts in the Fulda area. Of these, five were related to wildlife tripping out the Magnolia substation. As a result, IPL has changed out the transformer and installed wildlife protection in the Magnolia substation in an effort to reduce lockouts. In addition, wildlife protection was installed on 12 miles of line out of this substation to

further minimize the outages originating outside of the substation. As a result of this work, in 2012 there were no outages on the Magnolia 24kV system due to animals. At Magnolia the largest outage in 2012 was a broken phase conductor near Wilmont. The conductors at this location are difficult to reach due to the terrain in this area, so IPL is reviewing a scope to convert the line to underground.

The next largest outage in the Winnebago Zone in 2012 occurred at the Heron Lake substation. The substation lockout was caused by a blown insulator on facilities owned by ITC Midwest LLC (ITC Midwest) on the transmission side of the substation. The duration of the IPL distribution outage reflects the time required for ITC Midwest to make repairs to its transmission equipment. There were also two large outages on the distribution side of the system that accounted for 86,682 outage minutes, or 96% of all outage minutes, for the Heron substation. The first outage occurred on April 20, 2012, and after patroling the line, no specific cause of the outage could be found. The line was placed back into service without further issue. The second outage at the Heron substation that occurred on November 25, 2012, was the result of a broken jumper on a recloser for the only circuit out of this substation. This outage affected 348 customers. Since there is only one circuit out of this substation, all customers served from the substation experienced the outage until the jumper could be repaired.

F. To the extent feasible, a report on each interruption of a bulk power supply facility during the calendar year, including the reasons for interruption, duration of interruption, and any remedial steps that have been taken or will be taken to prevent future interruption;
IPL Response:

Date	Zone	Duration (Minutes)	Cause	Remediation
1/18	Albert Lea Zone	98	Foreign Utility_Intent	Blow fuse inside sub
2/8	Albert Lea Zone	54	Foreign Utility_AE	Three breakers opened at Hayward Sub, unknown cause
5/4	Albert Lea Zone	338	Foreign Utility_AE	69 KV line down, broken poles
5/4	Winnebago Zone	136	Foreign Utility_AE	Tornado damaged crossarm
5/17	Albert Lea Zone	121	Foreign Utility_AE	Reset breaker Dover sub
6/4	Winnebago Zone	28	Foreign Utility_AE	Loss of 69KV cause unknown, sectionalized and restored
9/19	Albert Lea Zone	17	Foreign Utility_AE	Blown insulator inside sub bus locked out
11/8	Albert Lea Zone	22	Foreign Utility_AE	ITC switching on 69 KV for the sub

Table 3 – Bulk Power Supply Facility Interruptions

G. A copy of each report filed under part 7826.0700

IPL Response:

IPL submitted outage reports on February 27, March 29 (3 reports), April 20, May 4 (2 reports), May 20, June 11, September 4, September 5 (3 reports) to the Consumer Affairs Office pursuant to Part 7826.0700, Subpart 1. IPL's Outage Report data is included as a table in Appendix A.

H. To the extent feasible, circuit interruption data, including identifying the worst performing circuit in each work center, stating the criteria 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;

IPL Response:

IPL has implemented a ranking process to identify distribution circuits whose reliability performance might be improved. Circuit outages beyond the control of IPL or which may not reflect the physical conditions of the equipment have been excluded from the analysis.

1. Types of events excluded from the circuit reliability analysis:

- Planned interruptions
- Interruptions caused by the failure of another utility's transmission or distribution system which feeds the IPL distribution system
- Interruptions caused by the public, such as vehicle accidents, customers dropping tree limbs in lines while trimming, ect
- Interruptions caused by personnel errors such as switching errors or accidental contact during live utility work
- Interruptions due to flooding

2. Duration Scoring

Outage Duration	Points
Outage less than 1 hr duration	1
Outage between 1 and 3 hr duration	2
Outage between 3 and 6 hr duration	3
Outage between 6 and 12 hr duration	4
Outage between 12 and 24 hr duration	5
Outage over 24 hr duration	6

3. Frequency Scoring

Number of Outages	Points
1	0
2	1
3	4
4	8
5	16
6	35
7	70
8	150
9	300
10 or more	500

For example, using this scoring analysis a customer with four outages, each less than one hour in duration, would score four points for duration and eight points for frequency totaling twelve points.

Utilizing this method enables IPL to identify and prioritize circuits with both poor reliability and large customer counts which might not otherwise be identified if using only the SAIDI or SAIFI of a circuit. IPL can then invest in the system improvements that will result in the greatest reliability impact to more Minnesota customers.

Albert Lea Zone Worst Circuit:

The worst circuit in the Albert Lea Zone for 2012 was Westside 1163. This ranking is due to the severe weather system causing numerous downed wires on the circuit on September 5th. The circuit was analyzed by the local ZRT to determine a root cause solution for the numerous storm damage tree related outages during this event and at two other similar outages. The ZRT has recommended that a project be

scoped to convert approximately 2,800 feet of overhead three phase line located in backyard locations to underground reducing the possibility of further storm related outages. The scope is due to be completed by summer of 2013 with a construction start date yet to be determined. The underground solution was selected as the ZRT does not feel that tree trimming will be sufficient to reduce the outages on this circuit in the long term due to the nature of the backyard right of way, the size, and maturity of the trees.

Winnebago Zone Worst Circuit:

The worst performing circuit in the Winnebago Zone was Wabasso 1252. There were two outages caused by tree limbs coming in contact with the line during high winds that caused 90% of the outage minutes on this feeder. These two events accounted for 63,309 outage minutes while all other outages on this feeder combined caused 4,054 outage minutes. The high wind events occurred on May 27th and June 19th and affected distribution feeders without backup switching availability. IPL has developed a plan to reconfigure the electric distribution system in the town to address this situation and prevent similar events in the future. IPL will eliminate the double circuit that presently runs east and west through the town and install circuit ties at key locations. This reconfiguration will allow for backup switching between all three distribution circuits serving the area and help balance the feeder loading at the substation.

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;

IPL Response:

There was one known instance in which nominal electric service voltage 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 in 2012. On April 18th a Load Tap Changer control at the Plainview substation malfunctioned and resulted in higher than standard voltage to exist for several hours. Upon receiving several customer calls a crew was dispatched and repairs were made immediately upon responding to the substation.

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

IPL Response:

The Albert Lea Zone has 23 employees available for responding to trouble and for the operation and maintenance of distribution lines. The Winnebago Zone has 17 employees available for responding to trouble and for the operation and maintenance of distribution lines.

RESPONSE TO MINNESOTA PUBLIC UTILITIES COMMISSION'S ORDER IN DOCKET NO. E-001/M-12-320

10. Regarding additional issues for reports due April 1, 2013, Interstate Power and Light shall include the following:

A. a description of the policies, procedures and actions that it has implemented, and plans to implement, to assure reliability, including information demonstrating

proactive management of the system as a whole, increased reliability, and active contingency planning.

IPL Response:

Detailed information demonstrating IPL's pro-active management of the system, increased reliability, and active contingency planning is documented throughout the 2012 Annual Electric Reliability Report Executive Summary.

B. a status update on the recloser and fuse coordination at affected substations to ensure proper fuse sizes have been installed to coordinate with substation protection equipment operation.

IPL Response:

In 2012 IPL distribution engineers performed coordination analysis on the substations and feeders shown in the table below. Coordination checks and adjustments are part of good, sound engineering practice and are performed on a continual basis across the system as transmission, load or system configuration changes warrant. As an integral part of each feeder life extension project, the tap fuse sizing is reviewed and adjusted.as necessary.

Table 4 – Feeder Recloser and Ta	p Fuse Coordination for 2012
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Substation	Feeder	Comments
LeCenter	LCTR1167 - Dresselville	Replaced recloser from R to V6H, installed 50A coil, changed phase curves from 2A-2B to 3C, and increased maximum tap fuse from 15T to 20T
Stewartville	STEW1461 -NE & E (Residential)	Replaced recloser from RX to VWE with 4D controller, changed curves from 3D to phase curves, 3-116, and ground curves, 3-132, and changed minimum trips from 400X to phase, 560A. and ground, 350A
Adams	ADAMS2102 - Taopi	Changed phase curve to 3-117 and increased max tap fuse from 30T to 40T

Elgin	ELGN1438 - Elgin	Changed recloser from R to WE recloser, changed phase minimum trip to 450A, changed phase curve from 2A-2D to phase curve, 3-118, and ground curve, 3-162, and replaced 80T maximum fuses with 200A solid blades
LeCenter	LCTR1193 - German Lake	Increased coil size from 50A to 70A and increased maximum tap fuse from 20T to 30T.
Walters	WALT1130 - Alden	Increased maximum tap fuse from 25T to 30T
Lewiston	LEWT1449 - Stockton	Changed recloser from RX to Nova-6, changed phase and ground minimum trip to 320A, changed phase curve from 3B to 3-133 phase and ground curves, and increased maximum tap fuse from 65T to 80T
Westside	WEST1102 - Roadrunner	Changed recloser from R to V6H, and changed curves from 1A3C to 1A2C
Eyota	EYOT1452- Eyota	Changed phase and ground minimum trips to 560A and sized high side fuse to 50E S&C SMD at mobile
Magnolia	MAGN 814/MAGN 816	rebuild and re-coordination
Hills	HILL 1202/HILL 1204/HILL 1282	rebuild and re-coordination
Blue Earth	BLUE 1560	reviewed for life extension project

C. a report on the five-year construction plan based on the most recent reliability indices and circuit performance information. This report should evaluate where construction dollars will have the greatest impact on reliability and include the cost and benefit to customers.

IPL Response:

IPL's current five-year construction project plan is shown in the table below. It is a "living document" and as such is subject to change on a constant basis as system conditions warrant. The life extension process is an integral part of the plan. As other reliability issues are known, root cause solutions are identified by the ZRTs and the plan is updated to include projects based on these root cause solutions. In many cases these solutions are less than \$25,000 and do not become part of the project plan, but are instead completed using IPL blanket project processes. The projects that are greater than \$25,000 are included in the plan and are ranked based on Benefit Cost Ratio (BCR) score and the recommendations of the ZRT. As discussed in previous filings, the BCR score is determined by evaluating customer benefit, reliability indices and overall line performance. The plan is flexible and as conditions warrant the ZRT has the ability to move a lower BCR scored project up in the plan to address changes in the line reliability and customer concerns.

Albert Lea Operating area		Est.	Description	Project name	BCR
01/01/2013	10 year life extension program	\$92,600	Life extend 2.74 mi of 1ph, 0.64 mi of 2ph and 6.95 mi of 3ph along feeder ID ESID1182.	LE 10.34 Mi Eastside ESID1182	0
01/01/2013	Poor system condition/Eli minate 4KV	\$52,605	Convert six circuits from 4 to 12 kV. Rebuilding or removing lines when necessary.	South Broadway 11-76 Conversion Project	0
01/01/2013	Poor system condition/Eli minate 4KV	\$138,171	Convert six circuits from 4 to 12 kV. Rebuilding or removing lines when necessary.	South Broadway 11-77 Conversion Project	0
01/01/2013	10 year life extension program	\$231,985	Life extend 11.97 mi of 1ph, 4.12 mi of 2ph and 19.48 mi of 3ph along feeder ID GLEN1121.	LE 35.69 Mi Glenville GLEN1121	0
01/01/2013	10 year life extension program	\$79,945	Life extend 4.58 mi of 1ph, 0.72 mi of 2ph and 11.54 mi of 3ph along feeder ID RACI1417.	LE 11.53 Mi Racine RACI1417	0
01/01/2013	10 year life extension program	\$23,725	Life extend 0.65 mi of 1ph, 2.23 mi of 2ph and 0.77 mi of 3ph along feeder ID RSFD1456.	LE 3.65 Mi Rushford RSFD1456	0
01/01/2013	10 year life extension program	\$37,903	Life extend 4.32 mi of 1ph, 0.64 mi of 2ph and 1.93 mi of 3ph along feeder ID CHAT1426	LE 6.89 Mi Chatfield CHAT1426	0
01/01/2013	10 year life extension program	\$184,972	Life Extend 16.64 mi of 1ph, 5.90 mi of 2ph, and 9.89 mi of 3ph along feeder ID LCTR1197	LE 32.43 Mi Le Center LCTR 1197	0

Table 5 – Five	Year	Construction	Project	Plan
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01/01/2013					1
	10 year life		Life extend 3.12 mi of 1ph, 0.16 mi of	LE 10.85 Mi	
	extension	•	2ph and 7.57 mi of 3ph along feeder ID	Montgomery	
	program	\$59,525	MONT1191.	MONT1191	0
01/01/2013	Improve reliability	\$157,942	Replace existing 2/0 & 4/0 overhead feeder exits with 750kcm cable	Feeder exits Lewiston Sub to 750kcmUG	0
01/01/2014	Poor system condition/Eli minate 4KV	\$152,422	Convert three circuits from 4 to 12 kV. Rebuilding or removing lines when necessary	South Broadway 11-79 Conversion Project	0
01/01/2014	Poor system condition/Eli minate 4KV	\$205,811	Convert three circuits from 4 to 12 kV. Rebuilding or removing lines when necessary	South Broadway 11-80 Conversion Project	0
01/01/2014	Poor system condition/Eli minate 4KV	\$86,870	Convert three circuits from 4 to 12 kV. Rebuilding or removing lines when necessary	South Broadway 11-75 Conversion Project	0
01/01/2014	Poor system condition/Eli minate 4KV	\$300,000	Purchase new transformer for new South Broadway 12.5KV substation		0
01/01/2014	10 year life extension program	\$40,000	Life extend 3.69 mi of 1ph, 2.66 mi of 2ph and 0.03 mi of 3ph along feeder ID CHAT1428.	LE 5.93 Mi Chatfield CHAT1428	0
01/01/2014	10 year life extension program	\$20,000	Life extend 0.41 mi of 1ph, 0.09 mi of 2ph and 2.45 mi of 3ph along feeder ID ESID1181.	LE 2.96 Mi Eastside ESID1181	0
01/01/2014	10 year life extension program	\$320,000	Life extend 30.03 mi of 1ph, 1.18 mi of 2ph and 18.30 mi of 3ph along feeder ID LEWT1445.	LE 49.21 Mi Lewiston LEWT1445	0
01/01/2014	10 year life extension program	\$122,000	Life extend 10.79 mi of 1ph, 1.40 mi of 2ph and 6.57 mi of 3ph along feeder ID MONT1192.	LE 18.73 Mi Montgomery MONT1192	0
01/01/2014	10 year life extension program	\$19,000	Life extend 0.38 mi of 1ph, 0.07 mi of 2ph and 2.48 mi of 3ph along feeder ID OWTA1136.	LE 2.93 Mi Owatonna OWTA1136	0
01/01/2014	10 year life extension program	\$176,000	Life extend 9.81 mi of 1ph, 4.78 mi of 2ph and 12.86 mi of 3ph along feeder ID WALT1130.	LE 26.94 Mi Walters WALT1130	0
01/01/2014	10 year life extension program	\$95,000	Life extend 3.18 mi of 1ph, 0.43 mi of 2ph and 11.04 mi of 3ph along feeder ID WALT1131.	LE 14.64 Mi Walters WALT1131	0

01/01/2014					
	10 year life		Life Extend 4.24 mi of 1ph, 1.65 mi of	LE 13.64 Mi	
	extension	000 092	2ph, and 7.72 mi of 3ph along feeder ID	Bricelyn BBI N1502	0
	program	φ09,000	DIVENTUS	DICLINI392	0
01/01/2014	Poor system condition	\$118,425	Rebuild 1.68 miles of rural 2 phase #4 ACSR to 1/0 ACSR in the Northeast corner of Ellendale MN. Rebuild 1.68 miles of rural 2 phase #4 ACSR to 1/0 ACSR in the Northeast corner of Ellendale MN	RBLD 3 Phase Ellendale N Ru #4 ACSR	54
01/01/2014	Poor system condition	\$26.439	RBLD 2 phase rural #4 ACSR line to single phase 1/0 ACSR replacing poles as necessary. Install a 25T tap fuse at the UB takeoff.	RBLD Grand Meadow So Ru 1 Ph to 1/0ACSR	54
01/01/2014	Poor system condition/Eli minate 4KV	\$56,312	Convert two circuits from 4.16 to 13.8kV Rebuilding and removing lines when necessary.	Chatfield 14-26 and 14-28 Conversion Project	0
01/01/2014	Poor system condition/Eli minate 4KV	\$86,693	Convert East Chatfield from 4.16 to 13.8kV and install 1000' 500 MCM underground feed from the Chosen Valley sub.	Chatfield Feeder Exit (1426 and 1428)	0
01/01/2015	Poor system condition/Eli minate 4KV	\$76,928	Convert two circuits (PLNV1434 and PLNV1436)from 4.16 to 13.8kV. Rebuilding and removing lines when necessary.	Plainview 14-34 and 14-36 Conversion Project	0
01/01/2015	Poor system condition/Eli minate 4KV	\$273,425	Work will include reconductoring existing overhead conductor and replacing existing poles with new 40ft class 40 poles along Cty Hwy 25 to tie in both Elgin and Plainview substations.	Plainview-Elgin Tie Reconductor Work along Cty Hwy 25	0
01/01/2015	Poor system condition/Eli minate 4KV	\$237,814	Work will include reconductoring existing overhead conductor and replacing existing poles with new 40ft class 40 poles along Cty Hwy 25 to tie in both Elgin and Plainview substations.	Plainview Elgin Tie - Second Phase	0
01/01/2015	Poor system condition/Eli minate 4KV	\$125,000	Convert circuit 14-38 from 4 to 12 kV. Rebuilding and removing lines when necessary	Elgin 14-38 Conversion	0
01/01/2015	Poor system condition	\$31,932	Replace poles north of the unincorporated village of Johnsburg and re-span where possible.	Rebuild - repole 1 phase Johnsburg Ru	161

01/01/2015	10		Life Futured 0.00 milef Ambr. 0.00 milef		
	10 year life		2ph and 2.63 mi of 3ph along feeder ID	Nineteen St	
	program	\$18,000	19ST1159	19ST1159	0
	10 year life		Life Extend 10.42 mi of 1ph, 0.93 mi of	LE 25.27 Mi	
01/01/2015	extension	\$165,000	2ph, and 13.94 mi of 3ph along feeder ID	NINETEEN St.	0
01/01/2013	program	ψ100,000		19011100	0
	10 year life		Life Extend 2.99 mi of 1ph, 0.20 mi of	LE 8.3 Mi	
	extension		2ph, and 5.13 mi of 3ph along feeder ID	Nineteen St.	
01/01/2015	program	\$54,000	19ST1164	19ST1164	0
	10 year life		Life Extend 3.06 mi of 1ph, and 0.21 mi	LE 3.27 IVII Nineteen St	
01/01/2015	program	\$22.000	of 3ph along feeder ID 19ST1169	19ST1169	0
		+,			
	10 year life		Life Extend 4.19 mi of 1ph, 2.61 mi of		
01/01/2015	extension	¢c0.000	2ph, and 2.31 mi of 3ph along feeder ID	LE 9.09 Mi Elgin	0
01/01/2015	10 year life	\$60,000	ELGIN1436	LGN 1430	0
	extension		Life Extend 1.24 mi of 1ph and 8.97 mi of	Adams	
01/01/2015	program	\$67,000	3ph along feeder ID ADAM2102	ADAM2102	0
	10 year life		Life Extend 13.40 mi of 1ph, 6.56 mi of	LE 43.09 Mi	
01/01/2015	extension	\$280.000	ADAM2103	Adams	0
01/01/2013	program	φ200,000			0
	10 year life		Life Extend 5.59 mi of 1ph, 0.17 mi of		
	extension		2ph, and 12.38 mi of 3ph along feeder ID	LE 17.8 Mi Spring	
01/01/2015	program	\$116,000	SPRV0509	Valley SPRV0509	0
			Rebuild backlot to LIG primary and		
			complete loop. Existing 1ph in trees.	Backlot rebuild in	
01/01/2015		\$50,000	Tree trimming required.	Plainview	
				Rebuild	
01/01/2016	Improve	¢200.000	Worst performing circuit and clearance	LCTR1196 circuit	
01/01/2016	reliability	\$200,000		west of sub	
	Poor system				
	condition/Eli			Grand Meadow	
01/01/2016	minate 4KV	\$500,000	Conversion of town to 25 kV	25kV Conversion	0
			Rebld existing 3 phase armless		
			construction 1/0 WAR to Xarm 1/0 BAR		
	Poor system		and replace distribution poles in poor	Limo Springo	
01/01/2016	minate 4KV	\$193 868	deadends throughout the town	Rbld Distrib	170
01/01/2010		<i></i>			
			Poplace electromochanical relation with		
			standard microcontroller relays install a		
	Required by		high side interrupting device, an RTU,		
	transmission		and comm equipment in the Montgomery	Montgomery Sub	
01/01/2016	provider	\$221,849	substation.	Relay REPL	0

01/01/2016	Improve reliability	\$500,000	Stewartville Rebuild Project. STEW1461 is overloaded and causing reliability issues due its long circuit distance. Project is to split STEW1461 load, take off some of STEW1461 West circuit load and put onto STEW1465. Project will include reconductoring approximately 900' of #2 to 266 ACSR and installing 971' of 500 MCM underground across river. The West STEW1461 load will be part of STEW1465 and existing East STEW1461 will remain STEW1461	Stewartville Rebuild (Reliability/Overlo ad issues)	
01/01/2016	Poor system condition		3 spacer cable failures in 2 years due to condition of cable insulation and clearance issues. High COM from these outages – radial feed	Albert Lea - Fairway spacer cable	
01/01/2016	Poor system condition/Eli minate 4KV	\$70,000	Build a new 69/12.5kV distribution substation in Eyota, MN to maintain the existing system.	Eyota North Sub Land Purchase	0
01/01/2016	Improve reliability	\$53,170	Rebuild the last remaining section of 1/0 ACSR on the 4/0 ACSR backbone tie between the Albert Lea Wastside Sub and the Northbridge sub to 266kCM ACSR. The rebuild starts at the intersection of Lakeview Blvd and Sunset St continuing northeast to the bridge.	RBLD Albert Lea Lakeview BLVD 1/0 ACSR	210
01/01/2016	Poor system condition/Eli minate 4KV	\$75,278	Build a new 69/12.5kV distribution substation in Eyota, MN to maintain the existing system.	Eyota North UG Feeder Exits	0
01/01/2016	10 year life extension program	\$108,000	Life Extend 7.74 mi of 1ph, 0.97 mi of 2ph, and 7.84 mi of 3ph along feeder ID GRMW1416	LE 16.54 Mi Grand Meadow GRMW1416	0
01/01/2016	10 year life extension program	\$11,000	Life Extend 0.03 mi of 1ph, 0.08 mi of 2ph, and 1.52 mi of 3ph along feeder ID LCTR1199	LE 1.62 Mi LeCenter LCTR1199	0
01/01/2016	10 year life extension program	\$64,000	Life Extend 6.01 mi of 1ph, 0.42 mi of 2ph, and 3.67 mi of 3ph along feeder ID NOBR1150	LE 9.79 Mi Northbridge NOBR1150	0

01/01/2016	10 year life extension program	\$7,500	Life Extend 0.98 mi of 3ph along feeder ID SBWY1175	LE 1.15 Mi South Broadway SBWY1175	0
01/01/2016	10 year life extension program	\$8,500	Life Extend 1.32 mi of 3ph along feeder ID SBWY1176	LE 1.3 Mi South Broadway SBWY1176	0
01/01/2016	10 year life extension program	\$22,000	Life Extend 0.62 mi of 1ph, 0.07 mi of 2ph, and 2.57 mi of 3ph along feeder ID SBWY1177	LE 3.25 Mi South Broadway SBWY1177	0
01/01/2016	10 year life extension program	\$129,000	Life Extend 6.70 mi of 1ph, 0.01 mi of 2ph, and 13.11 mi of 3ph along feeder STLC1105	LE 19.82 Mi Steele Center STLC1105	0
01/01/2016	10 year life extension 1/2016 program \$37,000 ID SWEC0001		LE 5.67 Mi Owatonna Steele Waseca SWEC0001	0	
01/01/2016	01/01/2016 \$150 000 266 ACSR 4 spans outside sub		Replacing 1/0 ASCR feeder with 4/0 or 266 ACSR 4 spans outside sub	Replace feeder 4 spans outse	
Poor system condition/Eli 01/01/2016 minate 4KV		\$250,000	Conversion of town to 25 kV	Elkton 25 kV Conversion	
01/01/2017	Inaccessible location	\$300,000	inaccessible location – road has been removed. Line CAN NOT be maintained for 3000'. Poor condition.	Medford - Rebuild Private ROW along RR tracks	
Poor system		\$500,000	Bad poles/bad hardware/bad conductor; Conductor is #1F Copper. Construction is 1930s vintage construction.	Design Elkton Tap	
10 year life extension 01/01/2017 program		\$23,000	Life Extend 1.72 mi of 1ph, 0.10 mi of 2ph, and 1.64 mi of 3ph along feeder ID BRLN1590	LE 3.46 Mi Bricelyn BRLN1590	0
10 year life extension 01/01/2017 program \$144,000		\$144,000	Life Extend 6.02 mi of 1ph, 0.36 mi of 2ph, and 15.67 mi of 3ph along feeder ID BRLN1591	LE 22.03 Mi Bricelyn BRLN1591	0
01/01/2017	10 year life extension 01/01/2017 program \$25,000 ID CHSJ2131		Life Extend 3.57 mi of 3ph along feeder ID CHSJ2131	LE 3.56 Mi Chester Junction CHSJ2131	0
01/01/2017	10 year life Life Extend 0.79 mi of of 3ph along 1/01/2017 \$5,100		LE 0.78 Mi Owatonna OWTA1138	0	

01/01/2017	10 year life extension program	\$25,000	Life Extend 1.71 mi of 1ph, 0.09 mi of 2ph, and 2.15 mi of 3ph along feeder ID PLNV1434	LE 3.72 Mi Grand Meadow GRMW1416	0
01/01/2017	10 year life extension program	\$22,000	Life Extend 1.07 mi of 1ph, 0.09 mi of 2ph, and 2.14 mi of 3ph along feeder ID SBWY1179	LE 3.28 Mi South Broadway SBWY1179	0
01/01/2017	10 year life extension program	\$6,200	Life Extend 0.92 of 3ph along feeder ID SBWY1180	LE 0.95 South Broadway SBWY1180	0
01/01/2017	10 year life extension program	\$9,400	Life Extend 0.15 mi of 1ph, 0.12 mi of 2ph, and 1.17 mi of 3ph along feeder ID STEW1460	LE 1.54 Mi Stewartville STEW1460	0
01/01/2017	10 year life extension program	\$217,000	Life Extend 10.64 mi of 1ph, 4.88 mi of 2ph, and 17.82 mi of 3ph along feeder ID STLC1106	LE 33.27 Mi Steele Center STLC1106	0
01/01/2017	Poor system condition/Eli minate 4KV	\$250,000	Conversion of town to 25 kV	Wolfe Creek 25 kV Conversion	0
01/01/2017	Poor system condition/Eli minate 4KV	\$250,000	Conversion of town to 25 kV	Brownsdale 25 kV Conversion	0
01/01/2018	Poor system condition	\$92,281	Rebuild old 3 phase Chester Jct to Riceville tie line along Co Rd 5 in LeRoy to single phase, reroute and rebuild the portion of the exising tie line from Chester Jct to Adams to 266kcm 3 phase	RBLD LeRoy W Co RD 5 State line to MN 56	109
01/01/2018	Poor system condition/Eli minate 4KV	\$543,739	Build a new 69/12.5kV distribution substation in Eyota, MN to maintain the existing system.	Eyota North - Sub Construction	0
01/01/2018	Poor system condition/Eli minate 4KV	\$20,000	Build a new 69/12.5kV distribution substation in Eyota, MN to maintain the existing system.	Eyota 4.2kV Sub Retirement	0
01/01/2018	Poor system condition/Eli minate 4KV	\$2,500	Build a new 69/12.5kV distribution substation in Eyota, MN to maintain the existing system.	Eyota 4.2kV Sub Land Resale	0
01/01/2018	Poor system condition/Eli minate 4KV	\$275,000	Build a new 69/12.5kV distribution substation in Eyota, MN to maintain the existing system.	Eyota North Transformer Purchase	0

Poor system condition/Eli			Conversion from 4 to 12kV voltage.	Eyota Conversion Work - Changeout	
01/01/2018	minate 4KV	\$50,000	Transformers will need to changed out.	Transformers	0
01/01/2018	10 year life extension program	\$245,000	Life Extend 11.22 mi of 1ph, 2.15 mi of 2ph, and 24.27 mi of 3ph along feeder ID CHSJ2132	LE 37.6 Mi Chester Junction CHSJ2132	0
01/01/2018	10 year life extension program	\$89,000	Life Extend 7.37 mi of 1ph, 0.71 mi of 2ph, and 5.59 mi of 3ph along feeder ID CHVL1472	LE 13.68 Mi Chosen Valley CHVL1472	0
01/01/2018	10 year life extension program	\$6,600	Life Extend 1.01 mi of 3ph along feeder ID FREEBORN	LE 1.01 Mi Freeborn FREEBORN	0
01/01/2018	10 year life extension program	\$189,100	Life Extend 1.84 mi of 1ph, 0.35 mi of 2ph, and 1.36 mi of 3ph along feeder ID PLNV1435	LE 29.09 Mi Plainview PLNV1435	0
10 year life extension 01/01/2018 program		\$221,000	Life Extend 13.64 mi of 1ph, 4.28 mi of 2ph, and 16.05 mi of 3ph along feeder ID \$221,000 SPRV1419		0
10 year life extension 01/01/2018 program		\$233,000	Life Extend 15.48 mi of 1ph, 4.74 mi of 2ph, and 15.58 mi of 3ph along feeder ID WEST1162	LE 35.79 Mi Westside WEST1162	0
01/01/2018	Poor system condition/Eli minate 4KV	\$250,000	Conversion of town to 25 kV	Racine 25 kV Conversion	0
01/01/2018	Poor system condition/Eli minate 4KV	\$250,000	Conversion of town to 25 kV	Spring Valley 25 kV Conversion	0
Poor system 01/01/2018 condition		\$250,000	Rebuild OH facilities on State Hwy 56. OH facilities need to be built to standard. Old poles, conductor, equipment, etc.	Rebuild OH on State Hwy 56 in LeRoy, MN (12017 State Hwy Avenue)	
Winnebago Operating A	vrea				
10 year life extension		\$115,560	Perform system improvements and repairs on 12 miles of OH line around Amboy	Amboy 1510 LE	
01/01/2013	Poor system condition	\$265,642	Rebuild 4.26 miles of three phase OH line from Fulda to 51st St.	Fulda to 51st St Rebuild	130 8
Poor system 01/01/2013 condition		Poor system condition \$167,273 line from 51st St. to Avoca		Fulda 51st St to Avoca Rebuild	130 8

01/01/2013	013				
	10 year life		Perform system improvements and		
	program	\$83.570	Wabasso feeder WBSO 1250	WBSO1250 LE	
	P 9	+			
	10 year life		Perform system inprovements and		
01/01/2013	program	\$123,075	feeder HNSK 1501	HNSK 1501 LE	
	Poor ovetem		Pobuild major parts of the OH		
01/01/2013	condition	\$265.873	distribution system in the town of Amboy	Amboy rbld	65
		. ,			
	10 year life		Perform system inprovements and		
01/01/2013	program	\$138,510	feeder HNSK 1502	HNSK 1502 LE	
	10 year life		Perform system inprovements and repairs on 13 miles of OH line on Hanska		
01/01/2013	program	\$75,765	feeder HNSK 1503	HNSK 1503 LE	
	Poor system		Rebuild 0.29 miles of three phase OH	Heron Lake 10th	199
01/01/2013	condition	\$54,752	line in the town of Heron Lake.	St rbld	8
	Poor system		Rebuild 1.2 miles of single phase OH	Heron Lake HWY	199
01/01/2013 condition		\$70,690	line along hwy 9 south of Heron Lake	9 Rbld	8
	10 year life		Derferre evetere increase and		
	extension		repairs on 3 miles of OH line on Klav		
01/01/2013	program	\$19,435	feeder KLAY 1217	KLAY 1217 LE	
	Poor system		Rebuild 1 mile of three phase OH line in	Beaver Creek 3	
01/01/2013	condition	\$164,859	the twon of Beaver Creek	ph Rbld	29
	Poor system		Rebuild 0.4 miles of three phase OH line	Okabena W	199
01/01/2013	condition	\$77,900	in the town of Okabena	Market St rbld	8
	10 year life		Perform system inprovements and		
	extension		repairs on 19 miles of OH line on Bat		
01/01/2014	program	\$278,040	Lake feeder BTLK 1243	Bat Lake 1243 LE	
	10 vear life		Perform system inprovements and		
	extension		repairs on 10 miles of OH line on Bat		
01/01/2014	program	\$141,420	Lake feeder BTLK 1244	Bat Lake 1244 LE	
	10 vear life		Perform system inprovements and		
	extension		repairs on 6 miles of OH line on Comfrey		
01/01/2014	program	\$65,560	feeder CMFY 1248	Comfrey 1248 LE	
	10 year life		Perform system inprovements and		
	extension		repairs on 4 miles of OH line on	Winnebago Local	
01/01/2014	program	\$34,560	Winnebago Local feeder WINL 1540	1540 LE	
	10 year life		Perform system inprovements and		
	extension	•	repairs on 5 miles of OH line on Fulda		
01/01/2014	program	\$52,320	teeder FULJ 1264	Fulda 1264 LE	

01/01/2014					
	10 year life		Perform system inprovements and		
	program	\$22.500	feeder FULJ 1263	Fulda 1263 LE	
01/01/2014	Cable replacement	\$210,840	Replace 3 miles of OH three phase line with three phase UG line to the town of Wanda.	Wanda OH to UG Conversion	
01/01/2014	Cable replacement	\$38,102	Retire 3 miles of three phase OH line to the town of Wanda.	Wanda OH Retirement	
01/01/2014	Poor system condition	\$260,000	Rebuild approximately 3.5 miles of three phase OH line going north out of the town of Wabasso.	Wabasso 12-53 Rbld	
01/01/2014	Poor system condition	\$147,916	Convert 1 mile of 24kV three phase OH line to UG.	Wilmont 25kV UG	
01/01/2015	10 year life extension program	\$80,280	Perform system inprovements and repairs on 9 miles of OH line on Dovray feeder DOVY 1229	Dovray 1229	
01/01/2015	10 year life extensionPerform system inprovements and repairs on 9 miles of OH line on Lewisville feeder LEWS 1527		Lewisville 1527		
01/01/2015	10 year life extension program	\$22,800	Perform system inprovements and repairs on 2 miles of OH line on Lewisville feeder LEWS 1528	Lewisville 1528	
01/01/2015	10 year life extension program	\$32,940	Perform system inprovements and repairs on 2 miles of OH line on Lismore feeder LISM1219	Lismore 1219	
01/01/2015	10 year life extension program	\$152,580	Perform system inprovements and repairs on 24 miles of OH line on Magnolia feeder MAGN 816	Magnolia 816	
01/01/2015	10 year life extension 01/2015 program \$59,100 Wabasso feeder WBSO 1252		Perform system inprovements and repairs on 5 miles of OH line on Wabasso feeder WBSO 1252	Wabasso 1252	
01/01/2015	10 year life extension /2015 program \$42,960 Winnebago Local feeder WINL 1536		Winnebago Local 1536		
01/01/2015	10 year life extension program	\$184,560	Perform system inprovements and repairs on 20 miles of OH line on Winnebago Local feeder WINL 1542	Winnebago Local 1542	
01/01/2015	10 year life extension program	\$243,720	Perform system inprovements and repairs on 13 miles of OH line on Westbrook feeder WSTB 877	Westbrook 877	

			Rebuilt and reconfigure the distribution	
04/04/0045	Poor system		improve reliability and provide improved	Wabasso Town
01/01/2015	condition	\$250,000	contingency switching.	Reconfigure
	10 year life		Perform system inprovements and	
01/01/2016	extension	\$62.400	repairs on 5 miles of OH line on	Ellsworth 1213
01/01/2010	program	ψ02,400		
	10 year life		Perform system inprovements and	
01/01/2016	program	\$44,040	feeder FULJ 1265	Fulda Jct 1265
	10 vear life		Perform system inprovements and	
	extension		repairs on 9 miles of OH line on	
01/01/2016	program	\$174,240	Lamberton feeder LMBT 851	Lamberton 851
	10 year life		Perform system inprovements and	
01/01/2016	extension program	\$707.760	repairs on 65 miles of OH line on Winnebago Local feeder WINL 1535	Winnebago Local
	p. cg	<i></i>		
	10 year life		Perform system inprovements and repairs on 6 miles of OH line on Walnut	Walnut Grove
01/01/2016	program	\$76,200	Grove feeder WNUT 1261	1261
	Poor system		Eliminate the underbuild circuit and feed	
	condition/Eli		customers directly off the 24kV system to	Sanborn RR
01/01/2016	minate 4KV	\$29,550	improve reliability	Conversion
	10 year life		Perform system inprovements and	
01/01/2017	extension	\$123.000	repairs on 24 miles of OH line on	Lewisville 1529
01/01/2017	program	φ120,000		
	10 year life		Perform system inprovements and	
01/01/2017	program	\$546,720	Magnolia feeder MAGN 814	Magnolia 814
	10 vear life		Perform system inprovements and	
	extension		repairs on 1 mile of OH line on Revere	
01/01/2017	program	\$20,220	feeder RVRE 1266	Revere 1266
	10 year life		Perform system inprovements and	
01/01/2017	extension	\$18 180	repairs on 1 mile of OH line on Sanborn	Sanhorn 1247
01/01/2017	program	ψι0,100		
	10 year life		Perform system inprovements and	
01/01/2017	program	\$109,200	Sanborn feeder SBRN 1267	Sanborn 1267
	10 year life		Perform system inprovements and	
	extension		repairs on 9 miles of OH line on	
01/01/2017	program	\$85,080	Sherburn feeder SHBR 1537	Sherburn 1537

01/01/2017	10 year life extension program	\$146,160	Perform system inprovements and repairs on 14 miles of OH line on Vernon Center feeder VRCN 1511	Vernon Center 1511	
01/01/2018	10 year life extension program	\$42,720	Perform system inprovements and repairs on 28 miles of OH line on Fulda feeder FULJ 826	Fulda Jct 826	
01/01/2018	10 year life extension program	\$245,100	Perform system inprovements and repairs on 26 miles of OH line on Garden City feeder GRDC 1512	Garden City 1512	
01/01/2018	10 year life extension program	\$139,140	Perform system inprovements and repairs on 8 miles of OH line on Lamberton feeder LMBT 854	Lamberton 854	
01/01/2018	10 year life extension program	\$139,020	Perform system inprovements and repairs on 13 miles of OH line on Sherburn feeder SHBN 1559	Sherburn 1559	

D. a report on the Company's review of the Life Extension guidelines with field engineering and construction crews. The review should ensure wildlife protection is installed on all projects and lightening protection is installed as designed by the engineer.

IPL Response:

All IPL Field Engineers completed training program ENG0205 Life Extension in 2012. This training covered all aspects of IPL's current Standard Operating Practice on life extension projects. Life extension guidelines are covered with construction crews during the pre-construction meeting held for each project. Crews are reminded at that time to install wildlife protection on every transformer and lightning protection as the Field Engineer has designed.

E. a summary table that allows the reader to more easily assess the overall reliability of the system and identify the main factors that affect reliability.

IPL Response:

IPL has included within its Executive Summary a number of graphs that will assist readers in assessing IPL's customer service response time and electric reliability trends. Construction projects IPL has identified or implemented have also been included to demonstrate where projects will take place, the cost to implement them and the positive effect they have on reliability of the IPL electric system.

F. a report on the major causes of outages for major event days

IPL Response:

See Section 7826.0500 part D above for a discussion on major event days.

7826.0500 Appendix A

Interstate Power & Light Outage Report

Minnesota Contemporaneous Reporting

			Time Service			Estimated	Number of	Estimated Time
	Time		Interruption	Location of Service	Cause of Service	Duration of	Customers	Service will be
Event Date	Reported	Contact Name	Began	Interruption	Interruption	Interruption	Impacted	Restored
				Fulda, Lismore,				
02/27/12	16:44	Sheila Altman	16:10	Reading, Wilmont	unknown	4 hours	501	20:45
					squirrel on highside			
					breaker in Plainview			
03/29/12	12:24	Todd Sniegowski	11:34	Plainview	substation	3 hours	953	14:30
					squirrel damaged			
03/29/12	12:41	Todd Sniegowski	11:34	UPDATED Plainview	substation	6.5 hours	953	18:00
						14 hours		
03/29/12	17:17	Janice Rowland	11:34	UPDATED Plainview	squirrel	34 minutes	953	04:00 03/30/12
				Heron Lake,		180		
04/20/12	12:49	Corey Miles	11:43	Kinbrae, Okabena	unknown	minutes	620	14:45
				Ash Creek, Beaver				
				Creek, Ellsworth,				
				Hills, Kanaranzi,				
				Lester, Magnolia,	weather, possible			
05/04/12	15:18	Rex McCright	14:21	Steen	tornado	4 hours	1273	20:21
					storm through area,			
				Bricelyn, Frost,	power out at substation,			
05/04/12	19:30	Mark Reynolds	17:57	Kiester, Rake	still patrolling	4 hours	858	22:00
					to be determined,			
05/20/12	17:14	Darrell Andersen	16:16	Stewartville	patrolling	3 hours	920	19:15
					two phases of primary			
06/11/12	15:24	Lori Havel	14:20	Albert Lea	burned down	3 hours	519	17:20
					unknown, breaker open			
09/04/12	10:42	Sean McPherson	09:47	Stewartville	at substation	2 hours	920	12:30
09/05/12	01:39	Sean McPherson	00:14	Albert Lea	storm	3 hours	519	03:14
09/05/12	01:43	Sean McPherson	00:10	Albert Lea	storm	3 hours	1066	03:10
				UPDATED				
09/05/12	01:45	Rex McCright	00:10	Albert Lea	storm	6 hours	1400	06:00

MINNESOTA RULES

PART 7826.0400 - SAFETY STANDARDS

2012

ANNUAL REPORT

7826.0400 ANNUAL SAFETY REPORT

On or before April 1 of each year, each utility shall file a report on its safety performance during the last calendar year. This report shall include at least the following information:

A. summaries of all reports filed with the United States Occupational Safety and Health Administration (OSHA) and the Occupational Safety and Health Division of the Minnesota Department of Labor and Industry during the calendar year;

IPL Response:

IPL is not required to submit annual reports to OSHA regarding safety performance. IPL does keep records in accordance with OSHA record keeping requirements. Please see Appendix B at the end of this section for the 2011 OSHA 300A Report Summaries for each of IPL's facilities in Minnesota.

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.

IPL Response:

There were no incidents or injuries requiring medical attention as a result of electrical system failures. The following table shows property damage claims resulting in compensation for 2012.

Property Damage Claims Resulting in Compensation in 2012											
(Electric)											
Description of Incident	Amount Paid	Remedial Action									
Customer's motor was damaged due to over voltage on utility system	\$11,272.71	Paid to repair/replace motor									
IPL removed a utility pole but failed to remove anchor. Customer struck anchor with his combine while working field and damaged combine head.	\$9,500.00	Paid to repair/replace combine part									
IPL located gas line for customer who was installing geothermal system. Locate of the gas line was incorrect and the contractor struck gas line.	\$750.00	Paid Fire department to stand by until utility arrived									
Tree ripped up in front of house; another tree in backyard was cut down to the stump; believes AE took down both trees without her permission.	\$182.55	Paid to replace tree									

	OSHA's Fi	orm 300A ary of l	(Rev. 01/2004) Work-Rela	ted Injuri	es and illne	essés	As of Date: (Run Date) Event Range: 01/01/2012 To 12/81/2012 To 180 Day Rule: True Event Based: True Run Date: 1/16/2013 Year 20 12 U.S. Department of Labor Occupational Safety and Heatth Administration	Ev Grand (1, 1) Grand (1, 1) (16) (1)
	All establishments cove to verify that the entries Using the Log, count has no cases, write "0" Employees, former e or its equivalent. See 2 Number of Ca Total number of deaths	ared by Part 1904 must co a the complete and accura the individual entries you mployees, and their repres to CFR Part 1904 35, in O asses Total number of cases with days	Indete this summary page, even if i te before completing this summary made for each category. Then write sentatives have the right to review it SHA's record keeping rule, for furtho SHA's record keeping rule, for furtho Total number of cases with job	to work-rolated injuries or ilinecses the totals below, thaking sure you to OSHA Form 300 in its entirely, the details on the access provisions of the access provisions of Total number of other recordable	ccourred during the year. Romember Ve added the entries from every page کو They also have finded access to the G for these forms	to review the Log of the Log Fyau SHA Form 301	Establishment information Your establishment name Albert Lea Street 100 N. Broadway City Albert Lea State MN State MN State MN Very State Albert Lea State Modername State Albert Lea State MN ZIP 56007-0059	
	0 (G) Number of Da	0 (H)	0 (I)	Cases 0 (J)			Standard Industrial Classification (NAICS), if # 9 g. 3715 OR North American Industrial Classification (NAICS), if 9 g. 336212	
	Total number of da from work (K)	ays away i	Total number of days of job transfer or restriction 0 (L)				Employment information (if you don't have these figures see the Workshood on the basic of this page to estimate) Annual everage number of employees Annual everage number of employees last year	
(1	Injury and Illne Total number of. (M) Injuries 2) Skin disorders	ess Types 	(4) Poisonings (5) Hearing loss	0 0 0			Sign here Knowingly falsifying this document may result in a fine.	
(3	 Respiratory cond <i>Post this Sumn</i> Public resoning builden for complete and reverse the comments about these and two Washington DC 2027 	litions <u>0</u> mary page from Fill this collection of information in privation of informations. Plentor markets or any other andects of 12 Do not send the completed	(0) All oliner ebruary 1 to April 30 of a statuted to availage 50 minutes percess as an out required to respond to the colle this stat volved on constant. US Department from so the affect	the year following the j porse including time to review the instru- dep of information unless 4 distances / ent of Labor DSHA Office of Statistics /	year covered by the form. closes search and gather the data needed, an oriently valid CMB control matter - Ryco Law hranjala Roem NL3644 200 Constitution Ave	nd roany fave	Contemportations 379-12.46 1/16/2013 Directory 507 379-12.46 1/16/2013 Directory 507	

OSHA's Form 300A (Rev. 01/2004)

OSHA's Form Summa l	n 300A (ry of V	Rev. 01/2004) Nork-Rela	ted Injuries and IIIn	As of Date: (Run Date) Event Range: 01/01/2012 To Year 20_1 12/31/2012 U.S. Depart 180 Day Rule: True Event Based: True Run Date: 1/16/2013
				Form appraved
All establishments covered by to verify that the entries are co	Part 1904 must con properte and accurate	nplete this summary page, even if no e before completing this summary.	work-related injuries or illnesses occurred during the year. Remember	ber to review the Log
Using the Log, count the inc had no cases, write "0".	lividual entries you n	nade for each category. Then write	he totals below, making sure you've added the entries from every pag	ge of the Log If you Establishment information
Employees, former employe or its equivalent. See 29 CFF	ees, and their repres R Part 1904 35, in OS	entatives have the right to review the SHA's recordkeeping rule, for further	OSHA Form 300 in its entirely. They also have limited access to the details on the access provisions for these forms.	e OSHA Form 301 Your establishment name Bent Tree Wind Farm BTWF Street 31072 State 13
Number of Cases				City <u>Hartland</u> state <u>MN</u> zip <u>56042</u>
Total number of To deaths car	tal number of ses with days	Total number of cases with job	Total number of other recordable	Industry description (eg , Manufacture of motor truck trailers)
aw D C	ay from work	transfer or restriction	cases	Standard Industrial Classification (SIC), if known # 9 3715
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7826.0400 Appendix B

OSHA's Form 300A (Rev. 01/2004) Summary of Work-Related Injuries and Illnesses



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OSHA's Form 300A	(Rev. 01/2004)		
Summary of	Work-Related	Injuries al	nd Illnesses

As of Date: (Run Date) Event Range: 01/01/2012 To 12/31/2012 180 Day Rule: True Event Based: True Run Date: 1/16/2013



Form approved OMB no 1218-0176

Occupational Safety and Health Administration

All establishments covered by Part 1904 must complete this summary page, even if no work-related injuries or illnesses occurred during the year. Remember to review the Log to verify that the entries are complete and accurate before completing this summary.

Using the Log, count the individual entries you made for each category. Then write the totals below, making sure you've added the entries from every page of the Log. If you had no cases, write "0".

Employees, former employees, and their representatives have the right to review the OSHA Form 300 in its entirety. They also have limited access to the OSHA Form 301 or its equivalent. See 29 CFR Part 1904.35, in OSHA's recordkeeping rule, for further details on the access provisions for these forms.

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Post this Summary page from February 1 to April 30 of the year following the year covered by the form.

Public reporting burden for this collection of information is estimated to average 50 minutes per response, including time to review the instructions, search and gather the data needed, and complete and review the collection of information. Persons are not required to respond to the collection of information unless if displays a currently valid CMB control number. If you have any comments about these estimates or any other aspects of this data collection, contact. US Department of Labor, OSHA Office of Statistical Analysis, Room N-3644, 200 Constitution Avenue, NW, Washington, DC 20210. Do not send the completed forms to this office.

Establishment inform	ation
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City Sherburn	State <u>MN</u> <u>56171-0</u> 367
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Company executive	Title
Phone	Date

OSHA's Form 300A (Rev. 01/2004) Summary of Work-Related Injuries and Illnesses As of Date: (Run Date) Event Range: 01/01/2012 To 12/31/2012 180 Day Rule: True Event Based: True Run Date: 1/16/2013



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OSHA's Form 300A (Rev. 01/2004) Commany of Work-Related Injuries and Illnesses

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OSHA's Form 300A (Rev. 01/2004) Summary of Work-Related Injuries and Illnesses As of Date: (Run Date) Event Range: 01/01/2012 To 12/31/2012 180 Day Rule: True Event Based: True Run Date: 1/16/2013



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7826.0400 Appendix B

OSHA's Form 300A (Rev. 01/2004) OSHA'S Form 300A (Rev. 01/2004) OSHA'S Form 300A (Rev. 01/2004)



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Form approved CMB no. 1215-0176

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MINNESOTA RULES

PART 7826.0600, SUBPART 1

RELIABILITY PERFORMANCE STANDARDS

2012

ANNUAL REPORT

7826.0600 RELIABILITY STANDARDS, SUBPART 1 ANNUAL REPORTING REQUIREMENTS

On or before April 1 of each year, each utility shall file proposed reliability performance standards in the form of proposed numerical values for the SAIDI, SAIFI, and CAIDI for each of its work centers. These filings shall be treated as "miscellaneous tariff filings" under the Commission's rules of practice and procedure, Part 7829.0100, Subpart 11.

IPL Response:

IPL proposes its 2013 electric reliability standards be set as stated in the table below.

		Proposed 2013
Region	Index	Goals
Albert Lea	SAIDI	81.8
	SAIFI	1.14
	CAIDI	75.2
Winnebago	SAIDI	76.3
	SAIFI	0.71
	CAIDI	99.3

Table 1 - Proposed 2013 Electric Reliability Standards

The methodology for developing the proposed goals for 2013 is consistent with the methodology utilized to develop the 2012 goals. The goal development involves three distinct calculations:

- 1. The mean of the previous five years' performance (used prior to 2011),
- The median of the previous five years' performance (to exclude large swings), and
- The mean of the previous five years' performance with the highest and lowest figures excluded (again, to exclude large swings).
In proposing its goals for 2013, IPL has calculated the reliability indices using all three of these methods and chosen the result that provided the most favorable customer service goal in each category. The table below details the calculations using all three methods and offers a comparison to previous years' performance. The calculations include all outage minutes including the planned outages IPL uses to safely install new equipment or maintain existing facilities to prevent a future unplanned outage.

							Method	Method	
							1	2	Method 3
Region	Index	2008	2009	2010	2011	2012	Mean	Median	Mean with High/Low Excluded
	SAIDI	115.0	68.3	125.7	81.8	75.4	93.2	81.8	90.7
Albert Lea	SAIFI	1.29	1.10	1.60	1.01	1.14	1.23	1.14	1.18
	CAIDI	89.3	62.5	78.9	80.8	65.9	66.0	78.9	75.2
	SAIDI	49.3	32.6	110.4	90.1	99.3	76.3	90.1	79.6
Winnebago	SAIFI	0.47	0.40	1.20	0.72	0.95	0.75	0.72	0.71
	CAIDI	104.0	84.6	88.7	124.4	105.0	101.4	104.0	99.3

 Table 2 - Indice Comparison

MINNESOTA RULES

PART 7826.1300 - ANNUAL SERVICE QUALITY REPORT

2012

ANNUAL REPORT

7826.1300 ANNUAL SERVICE QUALITY REPORT

IPL submits its Annual Report for Service Quality pursuant to Minnesota

Rules Part 7826.1300.

The report provides data required through Minnesota Rules:

7826.1400 - REPORTING METER-READING PERFORMANCE

7826.1500 – REPORTING INVOLUNTARY DISCONNECTIONS

7826.1600 – REPORTING SERVICE EXTENSION REQUEST RESPONSE TIMES

- 1826.1700 REPORTING CALL CENTER RESPONSE TIMES
- 7826.1800 REPORTING EMERGENCY MEDICAL ACCOUNT STATUS

7826.1900 - REPORTING CUSTOMER DEPOSITS

7826.2000 - REPORTING CUSTOMER COMPLAINTS

Please refer to Appendix C for the compilation of items in IPL's Annual Service

Quality Report.

Meter Reading	Performar	nce 7826.1	400 (Elec	tric & Gas	Service)								
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Monthly Average
A1. Number of cust	omer meters	s read by the	utility - Elec	tric and Gas	3								
Commercial	7,877	7,499	7,613	7,872	7,911	8,094	7,703	7,546	7,943	7,661	7,868	6,435	7,669
Industrial	278	268	272	279	277	280	264	266	269	272	265	238	269
Residential	40,970	41,147	40,718	42,000	42,123	43,349	40,814	39,724	42,094	40,873	40,332	33,026	40,598
Rural	1,382	1,144	1,262	1,324	1,367	1,387	1,322	1,283	1,302	1,177	1,394	972	1,276
Total	50,507	50,058	49,865	51,475	51,678	53,110	50,103	48,819	51,608	49,983	49,859	40,671	49,811
A2. Percentage of c	ustomer me	ters read by	the utility - I	Electric and	Gas								
Commercial	96.34%	91.89%	93.19%	95.91%	96.35%	98.38%	93.69%	91.61%	96.20%	92.84%	94.69%	78.07%	93.3%
Industrial	99.29%	96.40%	97.14%	98.59%	98.58%	99.64%	94.96%	95.68%	97.82%	96.45%	96.72%	85.28%	96.4%
Residential	93.51%	93.95%	92.95%	95.78%	96.09%	98.80%	93.14%	90.69%	95.98%	93.16%	91.66%	75.43%	92.6%
Rural	97.74%	81.60%	90.01%	93.90%	96.74%	98.23%	93.49%	90.93%	92.27%	84.49%	98.45%	69.18%	90.6%
Total	94.08%	93.32%	92.93%	95.77%	96.16%	98.72%	93.24%	90.87%	95.93%	92.90%	92.33%	75.72%	92.7%
A3. Number of cust	omer meters	s estimated b	by the utility	- Electric an	d Gas								
Commercial	298	661	555	336	300	133	519	691	314	591	440	1,807	554
Industrial	2	10	8	4	4	1	14	12	6	10	9	41	10
Residential	2,829	2,640	3,076	1,840	1,704	520	2,999	4,067	1,753	2,997	3,662	10,743	3,236
Rural	32	258	140	86	46	25	92	128	109	216	22	433	132
Total	3,161	3,569	3,779	2,266	2,054	679	3,624	4,898	2,182	3,814	4,133	13,024	3,932
A4. Total number o	f customer n	neters read b	by customer	class - Elec	tric and Gas								
Commercial	8,176	8,161	8,169	8,208	8,211	8,227	8,222	8,237	8,257	8,252	8,309	8,243	8,223
Industrial	280	278	280	283	281	281	278	278	275	282	274	279	279
Residential	43,815	43,799	43,805	43,850	43,835	43,876	43,822	43,800	43,856	43,876	44,002	43,783	43,843
Rural	1,414	1,402	1,402	1,410	1,413	1,412	1,414	1,411	1,411	1,393	1,416	1,405	1,409
Total	53,685	53,640	53,656	53,751	53,740	53,796	53,736	53,726	53,799	53,803	54,001	53,710	53,754

IP&L Minnesota Results - Calendar Year 2012

Meter Reading Pe	rformanc	e 7826.14	00 (Elect	ric & Gas	Service)								
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Monthly Average
B1. Number of custon	ner meters s	elf-read by	customer -	Electric and	Gas								
Commercial	1	1	1	0	0	0	0	0	0	0	1	1	0
Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential	16	12	11	10	8	7	9	9	9	6	8	14	10
Rural	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	17	13	12	10	8	7	9	9	9	6	9	15	10
B2. Percentage of cus	tomer mete	rs self-read	by custome	er - Electric	and Gas								
Commercial	0.01%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%	0.01%	0.01%
Industrial	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Residential	0.04%	0.03%	0.03%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.01%	0.02%	0.03%	0.02%
Rural	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
C1. Number of meters	not read by	vutility for 6	to 12 mont	hs - Electric	and Gas								
Commercial	2	0	0	0	0	2	0	1	2	3	2	3	1
Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential	10	11	7	11	7	5	5	7	12	11	12	10	9
Rural	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	12	11	7	11	7	7	5	8	14	14	14	13	10
C2. Number of meters	not read by	utility for n	nore than 12	2 months - E	Electric and	Gas							
Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential	0	0	0	0	0	0	0	0	0	0	0	0	0
Rural	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
D1. Data on meter rea	ding staffin	g levels (To	tal MN - Gas	& Electric)									
Total	11	11	11	11	11	11	11	11	11	11	11	11	11

IP&L Minnesota Results - Calendar Year 2012

Note on meter reading performance for December 2012.

Meter reads in December fell below the required 80% level due to winter weather conditions, an employee on extended maternity leave, higher than expected number of sick and vacation days taken by meter reading staff. Minnesota weather for December 2012 included heavy snow on December 8 and 9, blizzard conditions on Dec 19 and 20, and 11 days of below zero temperatures all of which made completing the required meter readings difficult and in some instances, dangerous for meter reading staff to complete.

Requirement	IP&L	Results	s - Cale	ndar Y	ear 20	12							
-													Monthly
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Involuntary Disconnections 7826.1500													
A. Number of disc notices sent													
Commercial	363	326	337	333	284	172	265	331	287	370	331	325	310
Industrial	16	10	9	12	9	5	9	14	12	10	15	12	11
Residential	3417	2222	2387	2861	2444	2409	2711	3760	3338	3846	2454	2924	2898
Rural	50	44	50	52	30	28	44	57	66	58	44	47	48
B. Number of custs. w ho sought Cold Weather Rule													
protection	557	319	484	255	0	0	0	0	0	159	2017	1537	444
B. Number of custs. w ho w ere granted CWR													
protection	557	319	484	255	0	0	0	0	0	159	2017	1537	444
C. Number of custs. w hose service w as													
disconnected	14	40	44	42	105	61	59	54	49	44	12	12	45
Commercial	5	6	3	1	5	1	2	5	3	1	0	3	3
Industrial	0	0	1	0	1	0	0	0	0	0	0	0	0
Residential	9	34	20	14/27	99	59	57	49	46	11/31	12	9	39
Rural	0	0	20	0	0	1	0	0	0	1	0	0	2
C. Number of disconnections restored w/in 24 hours													
Commercial	3	2	3	3	0	0	0	0	0	1	0	1	1
Industrial	0	0	1	0	0	0	0	0	0	0	0	0	0
Residential	2	21	8	6	0	0	0	0	0	28	7	5	6
Rural	0	0	0	0	0	0	0	0	0	0	0	0	0
D. Number of custs. w ho entered into a DPA to													
restore service	0	0	0	0	0	0	0	0	0	0	0	0	0

Service Extension Response Times 7826.1600 ¹		IP&L R	esults	- Calen	dar Yea	ar 2012							
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Monthly Average
A. # of custs requesting service to a location not previously served													
Commercial	13	0	0	0	18	8	6	31	19	37	6	27	13.59
Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0.00
Residential	38	0	0	6	10	1	3	3	4	12	3	11	7.49
Rural	0	0	0	0	0	8	0	0	0	0	0	0	0.67
A. Avg. interval between request/readiness date and actual install date													
Commercial	9	0	0	0	5	5	5	5	9	6	1	0	3.75
Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0.00
Residential	3	0	0	5	5	4	5	10	10	16	17	12	7.25
Rural	0	0	0	0	0	2	0	0	0	0	0	0	0.17
B. Number of customers requesting service to a location previously served (both Electric and Gas data in section "B"													
Commercial	78	40	44	33	38	49	38	44	47	50	82	45	49
Industrial	2	0	2	1	2	3	2	1	2	5	5	5	2.50
Residential	268	304	325	430	436	535	536	759	548	845	742	536	522
Rural	0	1	1	0	0	0	0	0	1	0	0	1	0.33
B. Avg. Interval between request/readiness date and actual install date													
Commercial	1	1	1	1	1	1	1	1	1	1	1	1	1
Industrial	1	1	1	1	1	1	1	1	1	1	1	1	1
Residential	1	1	1	1	1	1	1	1	1	1	1	1	1
Rural	1	1	1	1	1	1	1	1	1	1	1	1	1

Footnote 1: IPL does not specifically track this information by account. However, when initiating service to a previously served location only involves setting a meter and connecting the service, this request is typically handled the next business day. These requests would only take longer when the customer needs to do work on their side of the meter before service can be installed.

Requirement	IP & L Results - Calendar Year 2012												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Call Center Response Times 7826.1700													
Total Call Volume	4,713	4,790	4,883	5,256	6,457	5,457	5,476	6,306	6,060	6,070	4,772	3,699	63,939
Total Outage Call													
Volume	316	673	763	430	1355	761	674	503	992	341	362	202	7372
Overall Service Level	90.9%	94.0%	91.1%	89.2%	88.6%	88.5%	88.3%	84.6%	86.1%	88.3%	89.1%	89.0%	88.4%
Outage Service Level	93.67%	95.69%	92.14%	91.16%	91.73%	92.38%	90.80%	85.88%	88.71%	95.31%	95.30%	92.57%	91.73%

Requirement	IP&L	Result	s - Cale	endar Y	'ear 20	12		<u>.</u>			•		
	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Monthly Average
Emergency Medical Account Status													
7826.1800													
Number of custs. w ho requested EMA status	0	0	0	0	1	1	0	0	1	2	0	0	0.42
Number of custs. granted EMA status	1	0	0	0	1	1	0	0	1	2	0	0	0.42
Number of custs. denied EMA status	0	0	0	0	0	0	0	0	0	0	0	0	0
Reasons for each denial	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

Requirement	IP&L	Results	s - Cale	ndar Y	'ear 20'	12							
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Monthly Average
Customer Deposits 7826.1900													
Number of custs. required to make a deposit to get service	17	27	37	44	53	37	32	41	42	53	35	16	36

Reporting Customer Complaints 7826.2000	IP&L	Resu	ts - Ca	alenda	r Year	2012							Monthly
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
A. Number of complaints received	36	20	40	27	28	32	23	32	29	41	20	21	29
Commercial	6	3	2	3	5	3	4	4	4	1	2	2	3
Industrial	0	0	1	1	0	0	0	0	0	1	0	0	0
Residential	28	16	34	23	23	27	18	27	23	36	17	16	24
Rural	2	1	3	0	0	2	1	1	2	3	1	3	2
B. Number & percentage of complaints alleging:													
Billing errors - Number	0	1	0	0	1	0	0	0	0	1	1	0	0
Billing errors - Percent	0%	5%	0%	0%	4%	0%	0%	0%	0%	2%	5%	0%	1%
Commercial-number	0	1	0	0	0	0	0	0	0	0	0	0	0
Commercial-percent	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Industrial-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Residential-number	0	0	0	0	1	0	0	0	0	1	1	0	0
Residential-percent	0%	0%	0%	0%	4%	0%	0%	0%	0%	2%	5%	0%	1%
Rural-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Rural-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Inaccurate metering - Number	0	0	0	0	0	0	0	0	0	0	0	0	0
Inaccurate metering - Percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Commercial-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Industrial-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Residential-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Rural-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Rural-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Reporting Customer Complaints 7826.2000	IP&L	Resul	ts - Ca	alenda	r Year	2012							Monthly
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Wrongful disconnection - Number	0	0	0	0	0	0	0	0	0	0	0	0	0
Wrongful disconnection - Percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Commercial-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Industrial-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Residential-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Rural-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Rural-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
High bills - Number	0	1	1	2	0	0	0	2	0	2	1	0	1
High bills - Percent	0%	5%	3%	7%	0%	0%	0%	6%	0%	5%	5%	0%	3%
Commercial-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Industrial-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Residential-number	0	1	1	2	0	0	0	2	0	2	1	0	1
Residential-percent	0%	5%	3%	7%	0%	0%	0%	6%	0%	5%	5%	0%	3%
Rural-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Rural-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Inadequate service - Number	3	1	1	1	0	1	1	0	3	0	0	0	1
Inadequate service - Percent	8%	5%	3%	4%	0%	3%	4%	0%	10%	0%	0%	0%	3%
Commercial-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Industrial-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Residential-number	3	1	1	1	0	1	1	0	3	0	0	0	1
Residential-percent	8%	5%	3%	4%	0%	3%	4%	0%	10%	0%	0%	0%	3%
Rural-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Rural-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Reporting Customer Complaints 7826 2000	IP&L 2012	Resu	ts - Ca	alenda	r Year								Monthly
								Au	Se	Oc	No	De	Avorag
	Jan	Feb	Mar	Apr	May	Jun	Jul	g	р	t	V	C	e
New service extension intervals - Number	3	0	0	0	2	1	2	1	2	4	0	4	2
New service extension intervals - Percent	8%	0%	0%	0%	7%	3%	9%	3%	7%	10%	0%	19%	5%
Commercial-number	0	0	0	0	2	0	0	0	1	0	0	1	0
Commercial-percent	0%	0%	0%	0%	7%	0%	0%	0%	3%	0%	0%	5%	1%
Industrial-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Residential-number	2	0	0	0	0	1	2	1	1	4	0	3	1
Residential-percent	6%	0%	0%	0%	0%	3%	9%	3%	3%	10%	0%	14%	4%
Rural-number	1	0	0	0	0	0	0	0	0	0	0	0	0
Rural-percent	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Service restoration intervals - Number	0	0	2	0	1	1	0	3	0	1	2	4	1
Service restoration intervals - Percent	0%	0%	5%	0%	4%	3%	0%	9%	0%	2%	10%	19%	4%
Commercial - number	0	0	1	0	0	1	0	0	0	0	0	0	0
Commercial-percent	0%	0%	3%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%
Industrial-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Residential-number	0	0	0	0	1	0	0	3	0	1	2	3	1
Residential-percent	0%	0%	0%	0%	4%	0%	0%	9%	0%	2%	10%	14%	3%
Rural-number	0	0	1	0	0	0	0	0	0	0	0	1	0
Rural-percent	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	5%	1%
Other categories involving 5% or more of the total complaints													
Payment Status-number	12	1	10	2	3	4	5	3	4	2	1	1	4
Payment Status-percent	33%	5%	25%	7%	11%	13%	22 %	9%	14%	5%	5%	5%	13%
Commercial-number	3	0	0	1	2	0	1	0	0	0	0	0	1
Commercial-percent	8%	0%	0%	4%	7%	0%	4%	0%	0%	0%	0%	0%	2%
Industrial-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Residential-number	9	1	9	1	1	4	4	3	3	2	1	1	3
Residential-percent	25%	5%	23%	4%	4%	13%	17	9%	10%	5%	5%	5%	10%

							%						
Rural-number	0	0	1	0	0	0	0	0	1	0	0	0	0
Rural-percent	0%	0%	3%	0%	0%	0%	0%	0%	3%	0%	0%	0%	0%

Reporting Customer Complaints 7826.2000	IP&L	Resu	ts - Ca	alenda	r Year	2012		•	•		-	•	Monthly
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Turn On -number	0	2	2	2	3	1	0	0	4	4	3	0	2
Turn On - percent	0%	10%	5%	7%	11%	3%	0%	0%	14%	10%	15%	0%	6%
Commercial-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Industrial-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Residential-number	0	2	2	2	3	1	0	0	4	4	3	0	2
Residential-percent	0%	10%	5%	7%	11%	3%	0%	0%	14%	10%	15%	0%	6%
Rural-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Rural-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Meter Reading other - number	1	0	1	1	2	2	2	2	2	4	0	0	1
Meter Reading other - percent	3%	0%	3%	4%	7%	6%	9%	6%	7%	10%	0%	0%	4%
Commercial-number	0	0	0	0	0	1	1	0	0	0	0	0	0
Commercial-percent	0%	0%	0%	0%	0%	3%	4%	0%	0%	0%	0%	0%	1%
Industrial-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Residential-number	1	0	1	1	2	1	1	2	2	3	0	0	1
Residential-percent	3%	0%	3%	4%	7%	3%	4%	6%	7%	7%	0%	0%	4%
Rural-number	0	0	0	0	0	0	0	0	0	1	0	0	0
Rural-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%
Payment Arrangement -number	1	1	2	0	0	1	0	1	2	0	1	1	1
Payment Arrangement-percent	3%	5%	5%	0%	0%	3%	0%	3%	7%	0%	5%	5%	0
Commercial-number	1	0	0	0	0	0	0	0	0	0	0	0	0
Commercial-percent	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Industrial-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Residential-number	0	1	2	0	0	1	0	1	2	0	1	1	1
Residential-percent	0%	5%	5%	0%	0%	3%	0%	3%	7%	0%	5%	5%	3%

Rural-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Rural-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Reporting Customer Complaints 7826.2000	IP&L	Resu	ts - Ca	alenda	r Year	2012							Monthly
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Credit and Collections General-number	0	1	0	3	0	2	3	2	2	2	0	2	1
Credit and Collections General-percent	0%	5%	0%	11%	0%	6%	13%	6%	7%	5%	0%	10%	5%
Commercial-number	0	0	0	0	0	0	0	0	0	0	0	1	0
Commercial-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%
Industrial-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Residential-number	0	1	0	3	0	2	3	2	2	2	0	1	1
Residential-percent	0%	5%	0%	11%	0%	6%	13%	6%	7%	5%	0%	5%	5%
Rural-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Rural-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Property Damage-number	3	2	5	8	3	6	4	5	5	4	4	1	4
Property Damage-percent	8%	10%	13%	30%	11%	19%	17%	16%	17%	10%	20%	5%	15%
Commercial-number	1	0	0	1	0	1	1	0	1	0	0	0	0
Commercial-percent	3%	0%	0%	4%	0%	3%	4%	0%	3%	0%	0%	0%	1%
Industrial-number	0	0	0	1	0	0	0	0	0	1	0	0	0
Industrial-percent	0%	0%	0%	4%	0%	0%	0%	0%	0%	2%	0%	0%	1%
Residential-number	1	2	5	6	3	5	3	5	3	3	4	1	3
Residential-percent	3%	10%	13%	22%	11%	16%	13%	16%	10%	7%	20%	5%	12%
Rural-number	1	0	0	0	0	0	0	0	1	0	0	0	0
Rural-percent	3%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%	1%
Tree Trimming-number	1	4	5	2	3	6	3	2	2	3	3	4	3
Tree Trimming-percent	3%	20%	13%	7%	11%	19%	13%	6%	7%	7%	15%	19%	12%
Commercial-number	0	0	0	0	0	0	0	0	1	0	0	0	0
Commercial-percent	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%	0%
Industrial-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Residential-number	1	4	5	2	3	6	2	2	1	2	2	4	3

Residential-percent	3%	20%	13%	7%	11%	19%	9%	6%	3%	5%	10%	19%	10%
Rural-number	0	0	0	0	0	0	1	0	0	1	1	0	0
Rural-percent	0%	0%	0%	0%	0%	0%	4%	0%	0%	2%	5%	0%	1%

Reporting Customer Complaints 7826.2000	IP&L	Resu	ts - Ca	alenda	r Year	2012		•		-			Monthly
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Engineering,Construction,Maintenance Other-number	4	0	2	1	8	1	2	5	1	6	1	3	3
Engineering, Construction, Maintenance Other-percent	11%	0%	5%	4%	29%	3%	9%	16%	3%	15%	5%	14%	9%
Commercial-number	0	0	0	0	1	0	0	0	0	0	0	0	0
Commercial-percent	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%	0%
Industrial-number	0	0	1	0	0	0	0	0	0	0	0	0	0
Industrial-percent	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Residential-number	4	0	1	1	7	1	2	4	1	6	1	1	2
Residential-percent	11%	0%	3%	4%	25%	3%	9%	13%	3%	15%	5%	5%	8%
Rural-number	0	0	0	0	0	0	0	1	0	0	0	2	0
Rural-percent	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%	10%	1%
Power Quality & Reliability	0	0	2	0	0	0	0	0	2	0	0	0	0
Power Quality & Reliability-percent	0%	0%	5%	0%	0%	0%	0%	0%	7%	0%	0%	0%	1%
Commercial-number	0	0	0	0	0	0	0	0	1	0	0	0	0
Commercial-percent	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%	0%
Industrial-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Residential-number	0	0	1	0	0	0	0	0	1	0	0	0	0
Residential-percent	0%	0%	3%	0%	0%	0%	0%	0%	3%	0%	0%	0%	0%
Rural-number	0	0	1	0	0	0	0	0	0	0	0	0	0
Rural-percent	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Customer Payment Programs number	0	0	0	0	0	1	0	0	0	1	0	0	0
Customer Payment Programs-percent	0%	0%	0%	0%	0%	3%	0%	0%	0%	2%	0%	0%	0%
Commercial-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Industrial-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Residential-number	0	0	0	0	0	1	0	0	0	1	0	0	0
Residential-percent	0%	0%	0%	0%	0%	3%	0%	0%	0%	2%	0%	0%	0%

Rural-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Rural-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Reporting Customer Complaints 7826.2000	IP&L	Resu	ts - Ca	lenda	r Year	2012							Monthly
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Non Utility Billing-number	0	0	1	0	0	2	0	0	0	2	0	0	0
Non Utility Billing-percent	0%	0%	3%	0%	0%	6%	0%	0%	0%	5%	0%	0%	1%
Commercial-number	0	0	0	0	0	0	0	0	0	1	0	0	0
Commercial-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%
Industrial-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Residential-number	0	0	1	0	0	0	0	0	0	0	0	0	0
Residential-percent	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Rural-number	0	0	0	0	0	2	0	0	0	1	0	0	0
Rural-percent	0%	0%	0%	0%	0%	6%	0%	0%	0%	2%	0%	0%	1%
General Billing Questions/General Other-number	8	6	6	5	2	3	1	6	0	5	3	1	4
General Billing Questions/General Other-percent	22%	30%	15%	19%	7%	9%	4%	19%	0%	12%	15%	5%	13%
Commercial-number	1	2	1	1	0	0	1	4	0	0	2	0	1
Commercial-percent	3%	10%	3%	4%	0%	0%	4%	13%	0%	0%	10%	0%	4%
Industrial-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial-percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Residential-number	7	3	5	4	2	3	0	2	0	5	1	1	3
Residential-percent	19%	15%	13%	15%	7%	9%	0%	6%	0%	12%	5%	5%	9%
Rural-number	0	1	0	0	0	0	0	0	0	0	0	0	0
Rural-percent	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Reporting Customer Complaints 7826.2000	IP&L	Resul	ts - Ca	alenda	r Year	2012							Monthly
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
C. Number of complaints resolved upon initial inquiry	13	6	13	5	4	5	4	8	6	6	7	5	7
C.Percentage of complaints resolved upon initial inquiry	36%	30%	33%	19%	14%	16%	17%	25%	21%	15%	35%	24%	23%
Commercial-number	1	1	1	2	0	1	1	3	1	0	1	0	1
Industrial-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential-number	11	4	11	3	4	3	3	4	5	5	6	5	5
Rural-number	1	1	1	0	0	1	0	1	0	1	0	0	1
C. Number of complaints resolved within ten days	22	12	25	19	21	25	18	22	22	34	10	12	20
C.Percentage of complaints resolved within ten days	61%	60%	63%	70%	75%	78%	78%	69%	76%	83%	50%	57%	69%
Commercial-number	5	2	1	1	5	2	2	1	2	1	2	2	2
Industrial-number	0	0	1	0	0	0	0	0	0	1	0	0	0
Residential-number	16	10	21	18	16	22	15	21	18	31	8	7	17
Rural-number	1	0	2	0	0	1	1	0	2	1	0	3	1
C. Number of complaints resolved longer than ten days	1	2	2	3	3	2	1	2	1	1	3	4	2
C.Percentage of complaints resolved longer than ten days	3%	10%	5%	11%	11%	6%	4%	6%	3%	2%	15%	19%	7%
Commercial-number	0	0	0	0	0	0	1	0	1	0	0	0	0
Industrial-number	0	0	0	1	0	0	0	0	0	0	0	0	0
Residential-number	1	2	2	2	3	2	0	2	0	0	2	4	2
Rural-number	0	0	0	0	0	0	0	0	0	1	1	0	0

	IP&L	Resu	lts - C	alend	ar Yea	r							
Reporting Customer Complaints 7826.2000	2012												Monthly
							Ju	Au	Se	Oc	No	De	Averag
	Jan	Feb	Mar	Apr	May	Jun		q	p	t	V	С	e
D. Number and percentage of complains resolved by:					Í								
(1) Taking the action the cust. Requested-number	21	11	27	13	17	21	16	19	17	16	8	10	16
(1) Taking the action the cust. Requested-percent	58%	55%	68%	48%	61%	66%	70 %	59%	59%	39%	40%	48%	56%
Commercial-number	2	2	1	2	2	2	2	0	3	0	0	0	1
Industrial-number	0	0	1	1	0	0	0	0	0	0	0	0	0
Residential-number	18	8	22	10	15	17	13	18	12	16	8	8	14
Rural-number	1	1	3	0	0	2	1	1	2	0	0	2	1
(2) Taking action cust. and utility agree is acceptable compromise	6	0	10	4	10	3	4	8	3	12	3	4	6
(2) Taking action cust. and utility agree is acceptable							17						1001
compromise	17%	0%	25%	15%	36%	9%	%	25%	10%	29%	15%	19%	19%
Commercial-number	0	0	1	0	3	1	2	3	0	1	1	1	1
Industrial-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential-number	6	0	9	4	7	2	2	5	3	9	1	3	4
Rural-number	0	0	0	0	0	0	0	0	0	2	1	0	0
(3) Explaining that situation is not reasonably within utility's control	2	6	2	6	1	4	0	1	3	4	3	5	3
(3) Explaining that situation is not reasonably within utility's control	6%	30%	5%	22%	4%	13%	0%	3%	10%	10%	15%	24%	11%
Commercial-number	2	1	0	0	0	0	0	0	1	0	1	0	0
Industrial-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential-number	0	5	2	6	1	4	0	1	2	4	2	4	3
Rural-number	0	0	0	0	0	0	0	0	0	0	0	1	0
(4) Refusing to take the action the cust. Requested-number	7	3	1	4	0	4	3	4	6	9	6	2	4
(4) Refusing to take the action the cust. Requested-percent	0%	15%	3%	15%	0%	13%	13 %	13%	21%	22%	30%	10%	14%
Commercial-number	2	0	0	1	0	0	0	1	0	0	1	1	1
Industrial-number	0	0	0	0	0	0	0	0	0	1	0	0	0
Residential-number	4	3	1	3	0	4	3	3	6	7	5	1	3
Rural-number	1	0	0	0	0	0	0	0	0	1	0	0	0
E. # of complaints forwarded to the PUC's Consumer Affairs Ofc.	0	0	0	1	1	0	0	0	0	0	0	1	0.3

Commercial-number	0	0	0	0	0	0	0	0	0	0	0	1	0.1
Industrial-number	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential-number	0	0	0	1	1	0	0	0	0	0	0	0	0.2
Rural-number	0	0	0	0	0	0	0	0	0	0	0	0	0

SMART GRID REPORT

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

INTERSTATE POWER AND LIGHT COMPANY'S 2012 ANNUAL SMART GRID INFORMATIONAL REPORT

DOCKET NO. E999/CI-08-948

MARCH 29, 2013

Pursuant to the Minnesota Public Utilities Commission's (Commission) June 5, 2009, Order Taking Action Under Federal Independence and Security Act of 2007 (Order), utilities shall file reports beginning on April 1, 2010, and annually thereafter, on past, current, and planned smart grid projects, with a description of those projects, including: total costs, cost effectiveness, improved reliability, security, system performance, and societal benefit, with their electric service quality reports. Additionally, on March 3, 2011, the Commission issued a *Notice Clarifying information Sought in Smart Grid Reports*. The Commission requested additional information on the following topics:

- "Smart" functions enabled with existing infrastructure and systems (please also include what percentage of the utility's meters are currently mechanical, Automated Meter Reading (AMR), or Advanced Metering Infrastructure (AMI), and a sentence on the capability of each);
- Planned or completed system improvements which could affect customer service, power quality, or service quality metrics;
- Current customer access to data (such as usage or outage data) and how that data educates customers; any planned additional customer access to data;
- Time-varying rates and demand response; and
- Discuss the general costs of completed or planned projects (including the costs of changes to billing systems, and if applicable, the early retirements of

meters or other equipment) compared to the benefits realized or expected to be realized.

Interstate Power and Light Company (IPL) provides the following report pertaining to its utility operations in Minnesota, based on requirements contained in the Commissions initial Order, as well as its related subsequent clarifying March 3, 2011, Notice.

I. OVERVIEW OF IPL'S SMART GRID INVESTMENTS

As reported in its March 29, 2012 Smart Grid Annual Report, IPL has not implemented any Smart Grid-specific projects in Minnesota.

IPL continues to believe there are operational, service and societal benefits that would accrue to customers, with the deployment of AMI and Smart Grid at IPL at some point in the future. However, IPL believes it is prudent to prioritize its near-term capital investments in other infrastructure projects, and to minimize less critical investments that would otherwise tend to create upward short-term pressures to energy costs, like AMI.

By deferring its investment in AMI and Smart Grid, IPL also hopes it can successfully develop a lower-risk business case for deployments that is based on lessons learned, and validated results associated with other AMI and Smart Grid deployments, including those at its sister utility Wisconsin Power and Light Company (WPL). Additionally, delaying such AMI investments at IPL will also allow IPL to focus on replacement of its legacy Customer Information Systems (CIS) as part of the recently announced multi-year project to replace both the IPL and WPL CIS systems with one combined Oracle Customer Care and Billing system (CC&B). Full deployment of the

CC&B system is a major prerequisite for IPL to be able to fully support goals of future Smart Grid investments and deployments, especially related to AMI smart metering.

Although IPL does not have any other near-term Smart Grid initiatives planned, the four key drivers for its Smart Grid strategy remain as:

- Enabling active consumer participation in managing energy usage and costs through energy efficiency and demand response;
- 2. **Improving the utility's efficiency** in customer service and billing activities, emergency response and load management;
- 3. *Maintaining reliability* of aging infrastructure and *improving grid efficiency* and *capacity* through enhanced asset management, monitoring and self-healing capabilities; and
- Preparing the grid for integration of renewable and distributed energy resources, such as from wind, solar, bio-gas and plug-in hybrid electric vehicles.

IPL's Smart Grid strategy focuses on what IPL believes customers think matters most: safe, reliable energy at a reasonable cost. As a result, emphasis will be placed on developing strategies around key Smart Grid drivers #2 and #3; as italicized above. IPL has developed an initial Smart Grid Strategic Road Map based on those drivers and priorities, with projects centered initially on leveraging prior Smart Grid investments at WPL. A new Smart Grid Working Group has been recently chartered by AECS which will revisit the assumptions and drivers behind the original Smart Grid Strategic Road Map, and will provide enhanced leadership and vision in the development of smart grid strategies to effectively apply technology solutions that would tangibly improve operational excellence and service to customers.

II. "SMART" FUNCTIONS ENABLED WITH EXISTING INFRASTRUCTURE AND SYSTEMS

While IPL has not deployed AMR or AMI, IPL does have some technologies that have been in place for quite some time that would be defined as Smart Grid. Although not considered to be AMI, IPL does have about 264 advanced electric meters installed at some of its largest Minnesota commercial and industrial customers that provide interval-based energy usage information, generally on a monthly basis, using Itron MV-90 based systems. These 264 advanced meters represent about 5% of IPL's approximate 7,000 Minnesota commercial and industrial electric customers. Of these 264 advanced meters, 36 are remotely interrogated through a dial-up communication line, and 228 are read manually using a handheld device with an optical coupler. Customers with this type of advanced metering could be provided access to energy usage information via the internet using a web interface known as $PeakMap^{TM}$. Currently, eight of IPL's Minnesota customers are utilizing this capability at this time. With PeakMap, customers obtain precise energy consumption data to adjust business operations to take advantage of more favorable rates, make informed energy procurement decisions, allocate costs by metered locations, and fine-tune equipment operation and start-up schedules to reduce or eliminate costly demand peaks.

III. PLANNED OR COMPLETED SYSTEM IMPROVEMENTS WHICH COULD AFFECT CUSTOMER SERVICE, POWER QUALITY, OR SERVICE QUALITY METRICS

IPL also has a limited deployment of Supervisory Control and Data Acquisition (SCADA) capabilities at some of the larger substations serving its Minnesota distribution loads. These capabilities are supported by distribution SCADA systems and staff located at IPL's Distribution Dispatch Center in Cedar Rapids, Iowa. An upgrade to the OSI distribution SCADA system was completed in 2012 that provides expanded numbers and types of monitoring and control points that the system is capable of

handling, in addition to being able to better support advanced applications such as distribution system Volt/Var optimization as implemented by WPL.

Additionally, IPL has technology in place on its 24 KV sub-transmission system that provides self-healing capabilities. It does so by automatically sectionalizing faulted sections of circuits, and transferring load to available alternate sources, thereby minimizing the magnitude and duration of any service disruption to customers served from this system.

In its lowa service territory, IPL is continuing a small pilot project to test and evaluate the viability and efficacy of available technologies to support monitoring of select devices in IPL distribution systems, to reduce damage to substation assets, reduce overloaded feeders and load imbalances, and capture MAIFI information. The Department of Energy (DOE) added this pilot project to the scope of its Smart Grid Investment Grant that was previously awarded for WPL's Distribution Automation project described later in Section VII of this report. As part of this project, IPL will seek to evaluate its ability to leverage various communications paths, including use of the same two-way communication network used for its limited deployment of AMI smart metering in the Dubuque, Iowa area. The implementation phase of this project was completed in the 4th guarter of 2012. Results gleaned over the coming months will be used to help determine which technologies, if any, could be applied cost effectively to support goals around improving system reliability and operating efficiency, especially in rural areas with relatively low customer densities, such as that found in much of IPL's Minnesota service territory. Additionally, AECS has recently hired a new engineer whose primary responsibility is to focus on development of comprehensive strategies

around cost effective SCADA and Distribution Automation capabilities in support of the four key Smart Grid drivers described previously.

IV. CUSTOMER ACCESS TO DATA

As stated in Section II above, customers with advanced metering have the ability to access energy usage information via the internet using a web interface known as PeakMap. This is a version of Itron's MV-Web application that was customized and trademarked for Alliant Energy.

IPL has installed approximately 1,000 AMI meters in Dubuque, Iowa in support of "The Smarter Electricity Pilot Study" (Pilot Study). The Pilot Study is a project of Smarter Sustainable Dubuque, the City of Dubuque's partnership with IBM Research (IBM) and a component of the Sustainable Dubuque Initiative. This project is being conducted in partnership with IPL and IBM Research, and was supported by funding from a \$1.4 million grant from the Iowa Office of Energy Independence.

IPL's role in this project has been to provide advanced metering technology and data to enable IBM to develop services that allow volunteer participants to monitor their electric energy consumption much more frequently, instead of once a month on their utility bill. This is expected to enable consumers to make better, more informed choices about when to use energy, and how much they are using. IPL is providing anonymous customer electricity usage data to the City of Dubuque and IBM for analysis.

IBM has developed a consumer interface web portal to enable study participants to better understand their electricity use so they can consider changes to save energy, reduce costs, and reduce carbon emissions. Pilot Study volunteers are able to access their electricity usage and related data through an interactive website. It should be noted however, that IPL has not made the significant investments necessary to

integrate its IPL billing and customer information systems to its AMI systems. Therefore, IPL continues to read these meters manually on a monthly basis for billing its customers. Also, note that IPL has not designed or implemented any special rates for testing within the pilot.

V. <u>TIME-VARYING RATES AND DEMAND RESPONSE</u>

IPL has two Demand Response resources in the form of an interruptible load program and a time-of-use (TOU) pricing program. Both of these programs are available to its customer base, inclusive of the small-to-medium C&I market segment. Any C&I customer with a metered demand as low as 50 kilowatts can participate in the interruptible program and all of IPL's customers (regardless of size) can participate in a TOU pricing program.

Effective February 17, 2012, IPL enhanced its electric TOU tariffs for residential, commercial, industrial and institutional customers by initiating the following:

Decreased the energy charges; and

• Reduced the peak periods from 15 hours per day to 13 hours per day.

On a continuous basis, IPL markets this program to all customers through direct contact from key account management, customer support services and/or mail, and alliantenergy.com/timeofday. As of November 1, 2012, 38 customers were participating in IPL's TOU pricing program, providing an estimated 760 KW of load reduction, an increase of 260 KW since 2010.

On June 1, 2012, IPL filed a cost-effective DLC program as part of its 2013-2015 Triennial Electric and Natural Gas Conservation Improvement Plan. This new program was approved by the Commission October 19, 2012 (Docket No. E,G001/CIP-12-484).

By the end of 2015, IPL's goal is to have nearly 4,500 customers participating in IPL's DLC program providing an estimated 3 MW of load reduction.

VI. <u>GENERAL COSTS OF COMPLETED OR PLANNED PROJECTS COMPARED TO THE</u> BENEFITS REALIZED OR EXPECTED TO BE REALIZED

IPL did previously develop a business case in 2007 for deployment of an AMI project, coincidental with the business case developed for deployment of AMI at WPL. In that business case, IPL's Minnesota deployment of electric and gas AMI for all of its customers had an estimated capital investment cost of approximately \$25 million. However, a potential AMI deployment for IPL has been put on indefinite hold. No updates have been made to the original business case and cost estimate.

VII. CURRENT WPL SMART GRID PROJECTS

WPL has completed the deployment of AMI in its Wisconsin service territory. In February of 2008, WPL was issued a Certificate of Authority by the Public Service Commission of Wisconsin (PSCW) to implement its planned deployment of AMI to its approximate 640,000 gas and electric customers throughout its Wisconsin service territory. That deployment commenced in April 2008 with an initial AMI Pilot (Pilot) of about 20,000 electric and 20,000 natural gas customers as part of field acceptance testing of the technologies chosen by WPL. The success of that Pilot led to full deployment of approximately 462,000 electric AMI meters and 179,000 natural gas modules to WPL's residential and small commercial customers by the end of 2010. WPL is currently using its AMI system to bill over 630,000 customers, with less than 1% of estimations on a monthly basis. In addition to its AMI deployment, WPL also has several other Smart Grid initiatives planned or underway. One such initiative is WPL's Work Force Management Consolidation project, currently deployed in a pilot phase in

WPL's Stoughton, WI operating area. When fully implemented, it will provide integrated work management solutions that optimize the planning, tracking, scheduling, and dispatching of all field crew work, thereby improving operational effectiveness. As part of that set of solutions, AMI will serve as a supporting technology to improve management and response to electric outages for individual customers. For larger scale outages, AMI will provide alarms and data regarding momentary or sustained power outages, as well as voltage levels at a premise. AMI voltage monitoring capabilities will also be leveraged to monitor power quality on WPL's distribution grid to address short term operational issues, as well as to provide additional data to prioritize projects to address longer term issues as part of the investment planning process. This capability is also being used in conjunction with WPL's Smart Grid Investment Grant project as follows.

In May of 2010 WPL reached agreement with the DOE and accepted an American Recovery and Reinvestment Act (ARRA) grant from the DOE's Smart Grid Investment Grant Program. The \$3.2 million Distribution Automation grant will enable WPL's existing infrastructure to operate more efficiently by using enhanced substation and circuit level control of capacitor banks to optimize VAR flows and power factor, thus reducing loading on our distribution lines, transformers and feeder segments, and thereby reduce distribution waste and unnecessary power generation. This will allow for the same amount of energy to be delivered, but using less fuel to do it. Using less fuel will have a positive impact on the environment and will also reduce costs. The deployment of the field devices and control systems software has been completed, with approximately 575 capacitor banks now being controlled and managed. The system leverages prior technology investments by use of new interfaces to bring in data from

GIS, AMI, SCADA, and Outage Management systems. The system is now fully operational, and WPL will be monitoring its performance to track benefits that will be reported to the DOE through May of 2015.