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April 27, 2012

VIA OVERNIGHT MAIL DELIVERY
Ms. Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, Pennsylvania 17120-0200

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APR 27 2012

PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

L-00030161

Re: Duquesne Light Company – 2011 Annual Reliability Report

Dear Secretary Chiavetta:

Enclosed for filing please find an original and six (6) copies of Duquesne Light Company's Annual Reliability Report for the calendar year 2011, as required by 52 Pa. Code §57.195.

If you have any questions regarding the information provided, please contact me at (412) 393-3662.

Sincerely,

Vernon J. Edwards
Manager, Regulatory Affairs

Enclosures

- c: Mr. W. Williams – Bureau of CEEP
- Ms. Y. Snowberger – Bureau of CEEP
- Mr. I. A. Popowsky – Office of Consumer Advocate
- Office of Small Business Advocate

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PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU



*2011 Annual Electric Reliability Report
to the
Pennsylvania Public Utility Commission*



*Duquesne Light Company
411 Seventh Avenue
Pittsburgh, PA 15219*

April 30, 2012

**DUQUESNE LIGHT COMPANY
2011 ANNUAL ELECTRIC RELIABILITY REPORT**

Filed April 30, 2012

57.195 Reporting Requirements

(a)(2) The name, title, telephone number and e-mail address of the persons who have knowledge of the matters, and can respond to inquiries.

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(b)(1) An overall current assessment of the state of the system reliability in the electric distribution company's service territory including a discussion of the electric distribution company's current programs and procedures for providing reliable electric service.

Duquesne Light Company's service territory covers approximately 800 square miles, with a well-developed distribution system throughout. Electric service reliability is fairly consistent across the service territory. The combination of an effective outage restoration process and significant distribution automation allows the Company to quickly restore power to large numbers of customers in outage situations.

There were five storms in our service territory throughout 2011, of which one was PUC Reportable. No major events occurred during 2011.

Achieving outstanding performance in system reliability continues to be one of Duquesne's long-term objectives. The Asset Management Group performs ongoing analysis of reliability indices, root cause analysis of outages, and tracking and monitoring of other reliability performance measures. This is the long-term process to optimize reliability and to identify improvement opportunities. This includes making recommendations for capital projects such as circuit rehabilitation, new substations and distribution circuits.

An Emergent Work Process is used to identify problems, set priorities, and resolve issues as quickly as possible. Each day, field personnel perform field inspections and any abnormalities are logged into a database. This database is reviewed monthly by the Emergent Work Team, and any high priority problems are identified and a course of action is determined. In addition, any device that has operated four or more times in the previous six months is identified. Analysis at the device level is used to identify small areas where customers have experienced multiple outages. Duquesne believes system-level and even circuit-level indices may mask these isolated problems. This is the short-term process for real-time analysis and reliability improvement.

(b)(1) (Continued)

Scheduled preventative and predictive maintenance activities continue to reduce the potential for future service interruptions. Corrective maintenance is prioritized with the objective to reduce and eliminate any backlog in the most cost-efficient manner.

Several capital budget projects target distribution reliability improvements, including pole replacement, substation rehabilitation, circuit load relief and voltage improvement, URD rehabilitation, circuit rearrangement and installation of additional automated, remotely controlled pole top devices.

Specific programs, procedures and ongoing maintenance activities that support Duquesne's commitment to excellent service reliability include:

- An Infrared and Ultrasound Inspection Program that systemically identifies circuit and substation problems for remedial action in advance of failure.
- A comprehensive Vegetation Management Program, which is designed to provide long-term line clearance, deters future growth and achieves optimum cycle for trimming. All of the Company's circuits are included in a multi-year Vegetation Management maintenance program. The impact on SAIDI and SAIFI due to tree-related outages continues to trend positively.
- An ongoing long-term Sectionalizer Maintenance and Replacement Program serves to refurbish and maintain reliable operation of all automatic and remotely controllable switches on Duquesne's automated distribution system, and to replace those that are no longer operating efficiently.
- A comprehensive Substation Rehabilitation Program targets improvements in delivery system substation facilities, including the replacement of deteriorated and obsolete transformers, breakers, switches, relays, regulators and other equipment.
- Lateral fusing on 23KV distribution circuits is an ongoing initiative. Installing fuses on single phase and three phase overhead taps reduces the number of customers affected by an outage and improves reliability.
- New distribution substations are being installed between existing major substations to take advantage of transmission reliability, decrease distribution circuit exposure and improve reliability to end users.
- Line maintenance work of various types is regularly performed in order to maintain distribution plant. This work includes replacement of cross arms, arrestors, insulators, and other equipment on the overhead system, as well as inspections and remedial work on the underground system.
- Storm Preparedness Training is conducted each year, and Storm Review Meetings are held following all major events. These meetings focus on the successes and improvement opportunities of the most recent emergency service restoration effort, and service restoration process improvements are then implemented as needed to improve response time and effectiveness during the next restoration effort.

(b)(2) A description of each major event that occurred during the year being reported on, including the time and duration of the event, the number of customers affected, the cause of the event and any modified procedures adopted in order to avoid or minimize the impact of similar events in the future.

No major events occurred during 2011.

(b)(3) A table showing the actual values of each of the reliability indices (SAIFI, CAIDI, SAIDI, and if available, MAIFI) for the electric distribution company's service territory for each of the preceding 3 calendar years. The report shall include the data used in calculating the indices, namely the average number of customers served, the number of sustained customer minutes interruptions, the number of customers affected, and the minutes of interruption. If MAIFI values are provided, the number of customer momentary interruptions shall also be reported.

**RELIABILITY BENCHMARKS AND STANDARDS
Duquesne Light Company
System Performance Measures with Major Events Excluded****

	SAIDI	SAIFI	CAIDI	MAIFI
2009	82	0.97	85	*
2010	87	1.09	80	*
2011	99	0.93	107	*
3 Year Average	89	1.00	91	*
Benchmark	126	1.17	108	NA

* Sufficient information to calculate MAIFI is unavailable.

Formulas Used in Calculating the Indices

$$\text{SAIFI} = \frac{(\text{Total KVA interrupted}) - (\text{KVA impact of major events})}{\text{System Connected KVA}}$$

$$\text{SAIDI} = \frac{(\text{Total KVA-minutes interrupted}) - (\text{KVA-minute impact of major events})}{\text{System Connected KVA}}$$

$$\text{CAIDI} = \text{SAIDI/SAIFI}$$

Data used in calculating the indices

2011

Total KVA Interrupted for the Period	6,552,567 KVA
Total KVA-Minutes Interrupted:	700,283,041 KVA-Minutes
System Connected Load as of 12/31/11:	7,075,537 KVA

(b)(3) (Continued)

2010

Total KVA Interrupted for the Period (excluding 2/5/10, 4/16/10 & 9/22/10 Major Events previously reported)	7,640,009 KVA
Total KVA-Minutes Interrupted (excluding 2/5/10, 4/16/10 & 9/22/10 Major Events previously reported)	611,385,895 KVA-Minutes
System Connected Load as of 12/31/10:	7,033,052 KVA
February 5, 2010 Major Event:	1,562,210 KVA (22% of System Load) 1,193,717,350 KVA-Minutes
April 16, 2010 Major Event:	837,830 KVA (12% of System Load) 291,711,930 KVA-Minutes
September 22, 2010 Major Event:	985,497 KVA (14% of System Load) 479,093,870 KVA-Minutes

2009

Total KVA Interrupted for the Period (excluding 2/11/09 Major Event previously reported)	6,828,430 KVA
Total KVA-Minutes Interrupted (excluding 2/11/09 Major Event previously reported)	578,862,007 KVA-Minutes
System Connected Load as of 12/31/09:	7,043,377 KVA
February 11, 2009 Major Event:	903,714 KVA (13% of System Load) 291,170,402 KVA-Minutes

(b)(4) A breakdown and analysis of outage causes during the year being reported on, including the number and percentage of service outages and customer interruption minutes categorized by outage cause such as equipment failure, animal contact, tree related, and so forth. Proposed solutions to identified service problems shall be reported.

January 1, 2011 through December 31, 2011 – No PUC Major Event Exclusions

CAUSE	NO. OF OUTAGES	OUTAGE PERCENTAGE	KVA TOTAL	KVA PERCENTAGE	KVA-MINUTE TOTAL	KVA-MINUTE PERCENTAGE
Storms	645	19%	1,237,735	19%	195,219,098	28%
Trees (Contact)	67	2%	62,094	1%	6,152,058	1%
Trees (Falling)	662	20%	1,163,482	18%	163,592,529	23%
Equipment Failures	987	29%	2,474,693	38%	216,408,636	31%
Overloads	364	11%	339,370	5%	26,985,916	4%
Vehicles	146	4%	396,516	6%	52,256,184	7%
Other	493	15%	878,677	13%	39,668,620	6%
TOTALS	3,364	100%	6,552,567	100%	700,283,041	100%

(b)(5) A list of remedial efforts taken to date and planned for circuits that have been on the worst performing 5% of circuits list for a year or more.

Duquesne Light has one circuit that has been on the 5% worst performing circuit list for five consecutive quarters. This is Mt Nebo Circuit D23871. Planned remedial actions to improve the reliability of this circuit will be fully completed during the 2nd Quarter 2012. Remedial actions completed through the 1st Quarter 2012 have already improved reliability, and no new outages have occurred on this circuit since October 2011.

Rank	Circuit	Name	Service Center	Remedial Actions Planned or Taken
1	23871	Mt. Nebo	Raccoon	VM issues were fielded and addressed at time of failures. Entire circuit scheduled for VM maintenance in 2012. Also, Engineering has designed a job to install a new automated IntelliRupter on Mt. Nebo Road in Ohio Township to improve reliability in the future. This new device (WA893) has already been configured and sent to construction to be installed early in the 2nd Quarter of 2012. No new outages have occurred since October of 2011.

Circuit	Service Center	Device	Lock-outs	Connected KVA	Last Outage	Total KVA-Minutes	Total KVA Interrupted	SAIDI	SAIFI	CAIDI
Mt. Nebo 23871	Raccoon	Breaker	4	17,687	10/14/11	7,322,893	50,094	414	2.83	146

(b)(6) **A comparison of established transmission and distribution inspection and maintenance goals/objectives versus actual results achieved during the year being reported on. Explanations of any variances shall be included.**

Program – Project	Unit of Measurement	Target for 2011	Actual 2011	Percent Complete
Communication Goals				
Telecom Battery Maintenance	Batteries	96	97	101%
Overhead Distribution Goals				
Sectionalizer/Recloser Control	Control Units	89	121	136%
Sectionalizer Upper Switch	Switches	0	0	N/A
Overhead Transmission Goals				
Tower Helicopter Inspections	Number of Towers	500	557	111%
Tower Ground Detail Inspections	Number of Towers	300	337	112%
Substations Goals				
Breaker Maintenance	Breakers	806	810	100%
Transformer Maintenance	Transformers	68	71	104%
Station Battery Maintenance	Batteries	1,012	1,015	100%
Station Relay Maintenance	Relays	2,090	2,171	104%
Underground Distribution Goals				
Manhole Inspections	Manholes	750	803	107%
Network Vault Inspections	Network Units	550	559	102%
Network Protector Inspections	Protectors	300	409	136%
Underground Transmission Goals				
Pressurization and Cathodic Protection Plant Inspection	Work Packages	52	59	113%
Vegetation Management Goals				
Overhead Line Clearance	Circuit Overhead Miles	1,410	1,728	123%

2011 PUC Maintenance Program Year-End Variances

Sectionalizer/Recloser Control:

Our condition assessment programs are being expanded to leverage new wireless remote health monitoring tools capable of confirming function and condition.

Tower Helicopter Inspections:

Duquesne Light took advantage of extra helicopter time to inspect some additional towers.

Tower Ground Detail Inspections:

Additional inspections were performed during other work to maximize productivity and due to circuit design/configuration.

Network Protector Inspections:

A significant number of network protectors were inspected during other work activities. Inspection due date is reset. This strategy helps improve crew productivity.

Pressurization and Cathodic Protection Plan Inspection:

This work is combined with other tasks to improve workforce efficiency, which occasionally leads to more frequent inspections.

Overhead Line Clearance:

Some additional overhead clearance work was performed for emergent vegetation issues or storm outages to improve circuit reliability.

(b)(7) **A comparison of budgeted versus actual transmission and distribution operation and maintenance expenses for the year being reported on. Explanations of any variances shall be included.**

Operating and Maintenance	2011 Budget	Actual
Total	\$187,809,179	\$181,692,271

Expenses were less than anticipated due to slower ramp up of Energy Efficiency Programs, implementation of cost saving programs, and lower Transmission and ancillary services expenses.

(b)(8) **A comparison of budgeted versus actual transmission and distribution capital expenditures for the year being reported on. Explanations of any variances shall be included.**

Capital	2011 Budget	Actual
Total	\$251,960,148	\$259,559,176

Duquesne Light accelerated several 2012 projects by starting the work in 2011.

(b)(9) Quantified transmission and distribution inspection and maintenance goals/objectives for the current calendar year detailed by system area (i.e., transmission, substation, and distribution).

2012 Transmission and Distribution Goals and Objectives

Program – Project	Unit of Measurement	Target for Year 2012
Communication Goals		
Communication Battery Maintenance	Batteries	96
Overhead Distribution Goals		
Sectionalizer and Reclosers	Devices	497
Overhead Transmission Goals		
Tower Helicopter Inspections	Number of Towers	500
Tower Ground Detail Inspections	Number of Towers	300
Substations Goals		
Breaker Maintenance	Breakers	828
Transformer Maintenance	Transformers	74
Station Battery Maintenance	Batteries	980
Station Relay Maintenance	Relays	2,783
Underground Distribution Goals		
Manhole Inspections	Manholes	750
Network Vault Inspections	Network Vault Sites	238
Network Protector Inspections	Network Protectors	586
Network Transformer Inspections	Network Transformers	586
Underground Transmission Goals		
Pressurization and Cathodic Protection Plant Inspection	Work Packages	52
Vegetation Management Goals		
Overhead Line Clearance	Circuit Overhead Miles	1,300

(b)(10) Budgeted transmission and distribution operation and maintenance expenses for the current year in total and detailed by FERC account.

Operating and Maintenance	2012 Budget
Total	\$195,089,585

(b)(11) Budgeted transmission and distribution capital expenditures for the current year in total and detailed by FERC account.

Capital	2012 Budget
Total	\$187,575,201

The Duquesne Light Company 2011 Transmission and Distribution Operating and Maintenance (b)(10) and Transmission and Distribution Capital (b)(11) Budgets and Expenditures consist of the following work elements:

- Restoration of Service costs includes expenses to restore service to customers during storm-related events, and restoration from outages caused by system and component equipment failures.
- Customer Commitment costs includes expenses to satisfy residential, commercial, industrial and governmental initiated work requests.
- System Maintenance costs include expenses for programmed preventive and corrective maintenance work.
- System Improvement costs include expenses incurred to provide load relief in growth areas identified through system assessment, as well as continued targeted replacement of systems and components based on maintenance findings and trended useful life.
- Utility costs required to enhance and maintain systems and processes necessary in support of the utility operations including metering systems, technology development to satisfy hardware and system application needs, transmission and distribution planning, all revenue cycle processes and all Operations support and Administrative and General expenses.

(b)(12) Significant changes, if any, to the transmission and distribution inspection and maintenance programs previously submitted to the Commission.

Sectionalizer upper unit work has been fully integrated with our distribution automation recloser inspection and maintenance work, so a separate line item on the report has been eliminated. The resulting number of inspections and maintenance checks due for reclosers and sectionalizers has risen from 89 last year to 497 this year. A larger percentage of our new fleet of Intellirupter reclosers is also due for inspection in 2012 which added to the increase in goal of nearly 500%.

Our substation protection relay maintenance intervals have historically been based upon voltage class. The number of relays due is never consistent because they are not on the same cycle, so the units of work due will vary by year. For 2012 we need to test approximately 33% more relays than last year because a larger number of relays have become due based upon last inspection date.

DLC changed the tracking method used for I&M work in our underground network vaults to improve data granularity and asset analysis capability. This allows us to better verify the testing and condition of specialized transformers. As a result, these network transformers are being separately reported as a new line item on the report instead of

being combined with units of work reported for vaults. The count due this year is same as the new network protector goal.

Network vaults serving our urban areas are now tracked by site and the associated transformers are separated out for more reporting detail. Since equipment contained within each vault is separately reported now, our network vault goal has dropped from 550 to 238. The vault inspections are also being reported by site, not by distinct vault. Some sites have more than one vault.

Our goal for the number of units of work on network protectors has risen from 300 to 586 because we have increased the granularity and method used for tracking this work. It is now tracked by equipment, not by vault. This allows us to better track the condition of each protector.