

411 Seventh Avenue, MD 16-4 Pittsburgh, PA 15219

> Telephone: 412-393-3662 Fax: 412-393-5687 vedwards@duqlight.com

**Vernon J. Edwards**Manager, Regulatory Affairs

January 31, 2013

Ms. Rosemary Chiavetta, Secretary Pennsylvania Public Utility Commission Commonwealth Keystone Building 400 North Street Harrisburg, PA 17120-0200 RECEIVED

JAN 3 1 2013

PA PUBLIC UTILITY COMMISSION SECRETARY'S BUREAU

Re: Duquesne Light Company Fourth Quarter 2012 Electric Reliability Report

Dear Secretary Chiavetta:

Enclosed for filing is the Fourth Quarter 2012 Electric Reliability Report of Duquesne Light Company ("Duquesne Light" or the "Company"), in accordance with the Commission's Order at L-00030161, entered March 20, 2006. Duquesne is submitting both a public version [all information except subsection (e)(10)] and a confidential version. The confidential version includes all of the information required by 52 Pa. Code § 57.195, is marked "confidential and proprietary" and is enclosed is a sealed envelope. Duquesne respectfully requests the "confidential and proprietary" version not be made available to the public.

If you have any questions regarding the information provided, please contact me.

Sincerely

Vernon J. Edwards

Manager, Regulatory Affairs

Enclosures

cc: (Public Version):

Office of Consumer Advocate
Office of Small Business Advocate



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PA PUBLIC UTILITY COMMISSION SECRETARY'S BUREAU

# Duquesne Light Company 4th Quarter 2012 Electric Reliability Report to the Pennsylvania Public Utility Commission

January 31, 2013

## DUQUESNE LIGHT COMPANY Fourth Quarter 2012 – Electric Reliability Report

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Filed January 31, 2013

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PA PUBLIC UTILITY COMMISSION SECRETARY'S BUREAU

#### 57.195 Reporting Requirements

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

Ken Kallis – Manager, Asset Management (412) 393-8613, kkallis@duqlight.com

Vernon J. Edwards – Manager, Regulatory Affairs (412) 393-3662, vedwards@duqlight.com

(e)(1) A description of each major event that occurred during the preceding quarter, 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 the fourth quarter of 2012.

(e)(2) Rolling 12-month reliability index values (SAIFI, CAIDI, SAIDI, and if available, MAIFI) for the electric distribution company's service territory for the preceding quarter. The report shall include the data used in calculating the indices, namely the average number of customers served, the number of sustained customer interruptions, the number of customers affected, and the customer minutes of interruption. If MAIFI values are provided, the report shall also include the number of customer momentary interruptions.

## RELIABILITY BENCHMARKS AND STANDARDS Duquesne Light Company

System Performance Measures with Major Events Excluded

Entire System										
SAIDI SAIFI CAIDI MAIFI										
Benchmark	126	1.17	108	*						
12 Month Standard	182	1.40	130	*						
2012 4Q (Rolling 12 mo)	79	0.67	117	*						

<sup>\*</sup> Sufficient information to calculate MAIFI is unavailable.

#### Formulas used in calculating the indices

SAIFI = (Total KVA interrupted) - (KVA impact of major events)

System Connected KVA

SAIDI = (Total KVA-minutes interrupted) - (KVA-minute impact of major events)

System Connected KVA

CAIDI = SAIDI/SAIFI

#### Data used in calculating the indices

Total KVA Interrupted for the Period 4,790,378 KVA

Total KVA-Minutes Interrupted: 560,098,427 KVA-Minutes

System Connected Load as of 12/31/12: 7,120,660 KVA

(e)(3) Rolling 12-month reliability index values (SAIFI, CAIDI, SAIDI, and if available, MAIFI) and other pertinent information such as customers served, number of interruptions, customer minutes interrupted, number of lockouts, and so forth, for the worst performing 5% of the circuits in the system. An explanation of how the electric distribution company defines its worst performing circuits shall be included.

Circuits are evaluated based on a rolling twelve-month count of lockouts of protective devices (circuit breakers, sectionalizers and line reclosers). Circuits that experience four or more lockouts for a device in each quarterly rolling twelve-month period are identified and reported. Customer surveys show a significant drop in satisfaction when customers experience four or more interruptions in a year, and that threshold was therefore used as a basis for this evaluation method.

The list is ranked first by the date of the most recent outage, with a secondary sort based on number of lockouts. This places a higher priority on circuits experiencing problems in the most recent quarter. Circuits that have not seen recent outages fall to a lower priority, but remain on the list for monitoring.

Circuits that appear on the list for more than a year will be targeted for remediation based on a review of outage records for root cause identification, field evaluations, and engineering analysis. Project scopes developed as a result of this analysis will be incorporated into the company's Work Plan for engineering, design and construction.

This circuit analysis method provides timely review by in-house staff. It provides a true representation of the dynamic nature of Duquesne's distribution system. The threshold of four lockouts may produce a result greater or less than 5% of the total circuits in the system. Reports will be issued on all circuits that violate the four-lockout threshold, even if the total is greater than 5% of the number of circuits on the system.

See Attachment A for table of circuit reliability values and Service Centers associated with each circuit.

## (e)(4) Specific remedial efforts taken and planned for the worst performing 5% of the circuits as identified in paragraph (3)

Fourth Quarter Rolling 12 Months

Rank	Circuit	Name	Service Center	Remedial Actions Planned or Taken
1	23733	Universal	Penn Hills	No new outages have occurred since 07/24/12. Previous outages resulted from a primary wire down caused by fallen tree, broken cross arm caused by fallen tree, a wire down caused by equipment failure and an accidental fault caused while a crew was pulling new conductor with EA686 in Hot Line Tag. The wires down conditions were permanently repaired and all tree issues were resolved at the time the outages were restored. Additionally, an all Pulse-Reclosing protection system was implemented on this circuit during the 4th QTR of 2012 to reduce damage done during fault reclosing.
2	23903	Plum	Penn Hills	No new outages have occurred since 07/26/12. Previous outages resulted from two incidents where trees fell across 3-Phase primary, a primary dead end insulator failure and a conductor downed due to a storm. The primary dead end failure and wire down conditions were permanently repaired and all tree issues were resolved at the time the outages were restored.
3	22869	Midland- Cooks Ferry	Raccoon	No new outages occurred during the 4th QTR. Previous outages resulted from a jumper failure while carrying a portion of another circuit, a primary conductor downed by lightning, a primary conductor downed in five locations during a storm, a primary jumper burned open, 4/0 conductor burned down outside Midland Sub during a storm, and a breaker lockout due to unknown causes. Permanent repairs have been made for all of the outages. Also, device protection settings have been modified to assure that downstream devices trip before the breaker for downstream faults. VM worked this entire circuit as part of its scheduled 2012 maintenance program and all treerelated issues on the circuit were addressed and reliability expected to improve. Infrared inspections were also done over the entire circuit during the 4th QTR of 2012 and construction completed all repair work identified.
4	4266	Grant	Preble	No new outages occurred during the 4th QTR but we continue to closely monitor performance. Previous 4 outages were all cable related. The 1st outage was due to cable damage sustained when an adjacent cable on circuit 4264 failed. The 2nd outage was due to a cable failure on a terminal pole under a U-Guard. The last two outages were only temporary and the circuit went back each time. An intermittent cable fault was suspected. The suspect bad cable was tested from an adjacent circuit and the bad section was identified and permanently repaired. No additional cable problems are expected.
5	23661	Crescent	Raccoon	All outages were caused by tree related problems in a small, heavily wooded area beyond 4kV reclosers that are fed by a circuit lateral off the main feeder. After the outages occurred, the affected area was thoroughly investigated by Vegetation Management and all trees trimmed in a manner that will mitigate potential future problems.

6	23623	Raccoon	Raccoon	Two outages were tree-related problems. One was caused by tree contact during a storm and the other was a wire down due to a fallen tree. A third outage was caused by a transformer failure and the forth was a broken pole caused by a vehicle accident. Permanent repairs were made during each restoration process and all tree-related issues were corrected to prevent future problems.
7	23870	Mt Nebo	Raccoon	One outage was caused by a broken insulator, another by an outside contractor shorting primary lines while pulling cable at a new construction site and a 3rd was due to unknown causes. The other five outages were tree related problems. These problems were addressed at the time each outage was restored and VM inspected areas around these locations and corrected any additional tree issues found. Also, VM started its scheduled maintenance program on this entire circuit in the 4th QTR of 2012 and this work will be completed early in 2013 before the spring growing season.
8	23690	B.I.	Preble	All outages were caused by tree related problems along a heavily wooded hillside area that recently became unstable and prone to landslides and tree falls-ins. DLC's Asset Mgt Department was preparing to reroute this portion of the circuit but a developer has since stabilized the hillside. VM will revisit this area and verify that all potential vegetation issues have been addressed.
9	4279	Squaw Run	Edison	All four outages were caused by loss of supply to the Squaw Run Substation due to various problems on the 23kV subtransmission circuit that feeds it. Asset Mgt has designed a project to add a 23kV IntelliRupter to the Blawnox SS-side of Squaw Run Sub to provide automated restoration of the SS feed from either side. This will alleviate future outages to Squaw Run SS when its sub-transmission feed has an outage on either side of the substation.
10	23706	North	Edison	The first outage was caused by a broken crossarm which caused primary conductors to wrap together. The other three outages were tree related problems that either knocked down primary wires or shorted primary phase conductors. These problems were permanently resolved at the time each outage was restored. VM inspected areas around these locations and corrected any additional tree issues found.

(e)(5) A rolling 12-month breakdown and analysis of outage causes during the preceding quarter, including the number and percentage of service outages, the number of customers interrupted, 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, 2012 through December 31, 2012 - No PUC Major Event Exclusions

CAUSE	NO. OF OUTAGES	OUTAGE PERCENTAGE	KVA TOTAL	KVA PERCENTAGE	KVA- MINUTE TOTAL	KVA-MINUTE PERCENTAGE
Storms	557	18%	1,044,910	21%	133,218,133	24%
Trees (Contact)	67	2%	104,135	2%	8,604,491	2%
Trees (Falling)	670	22%	1,254,933	26%	178,128,557	32%
Equipment Failures	842	27%	1,322,075	28%	145,639,255	26%
Overloads	381	12%	288,569	6%	20,583,265	4%
Vehicles	147	5%	329,552	7%	41,083,207	7%
Other	401	14%	486,204	10%	32,841,519	5%
TOTALS	3,065	100%	4,790,378	100%	560,098,427	100%

## (e)(6) Quarterly and year-to-date information on progress toward meeting transmission and distribution inspection and maintenance goals/ objectives.

Program	Unit of	Target for	Actual for	Percent	Targets for	YTD Actuals	Percer
Project	Measurement	2012 4Q	2012 4Q	Complete	Year 2012	Year 2012	Complet
Communications Goals							
Communication Battery Maintenance	Batteries	24	24	100%	96	96	1009
Overhead Distribution Goals							
Sectionalizer and Reclosers	Devices	0	0	0%	497	500	101
Overhead Transmission Goals							
Tower Heficopter Inspections	Number of Towers	0	0	0%	500	500	100
Tower Ground Detail Inspections	Number of Towers	50	Ō	0%	300	327	109
Substations Goals							
Breaker Maintenance	Breakers	198	180	91%	828	830	100
Transformer Maintenance	Transformers	4	13	325%	74	74	100
Station Battery Maintenance	Batteries	245	244	100%	980	978	100
Station Relay Maintenance	Relays	733	750	102%	2,783	2,954	106
Underground Distribution Goals							
Manhole Inspections	Manholes	150	40	27%	750	757	101
Network Vault Inspections	Network Vault Sites	58	0	0%	238	238	100
Network Protector Inspections	Network Protectors	136	0	0%	586	586	100
Network Transformer Inspections	Network Transformers	136	. 0	0%	586	586	100
Underground Transmission Goals							
Pressurization and Cathodic	<u>_</u>						
Protection Plant Inspection	Work Packages	13	13	100%	52	52	100
Vegetation Management Goals							
Overhead Line Clearance	Circuit Overhead Miles	324	429	132%	1,300	1,338	103
	Total Units	2,071	1,693	82%	9,570	9,816	103

# (e)(7) Quarterly and year-to-date information on budgeted versus actual transmission and distribution operation and maintenance expenditures in total and detailed by the EDC's own functional account code or FERC account code as available.

Operating and Maintenance	2012 Budget	4 <sup>th</sup> Qtr. Actual	4 <sup>th</sup> Qtr. Budget	YTD Actual	YTD Budget
Total	\$195,089,585	\$53,300,574	\$52,290,209	\$189,619,778	\$195,089,585

## (e)(8) Quarterly and year-to-date information on budgeted versus actual transmission and distribution capital expenditures in total and detailed by the EDC's own functional account code or FERC account code as available.

Capital	2012	4 <sup>th</sup> Qtr.	4 <sup>th</sup> Qtr.	YTD	YTD
	Budget	Actual	Budget	Actual	Budget
Total	\$187,595,649	\$51,042,723	\$40,299,607	\$193,666,174	\$187,595,649

The increased capital spending in the 4th quarter was due to the timing of capital expenditures, and resulted in an annual variance of 3.2%.

Duquesne Light Company's Transmission and Distribution Operating and Maintenance (e)(7) and Transmission and Distribution Capital (e)(8) 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.
- Outility 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.

# (e)(9) <u>Dedicated staffing levels for transmission and distribution operation and maintenance at the end of the quarter, in total and by specific category (e.g. linemen, technician, and electrician).</u>

Telecom	Electronic Technician	9
	Sr. Electronic Tech	11
	Telecom Splicer/Trouble	6
	Test Table Tech	0
	Total	26
Substation	Electrical Equipment Tech	25
	Protection & Control Tech	27
	Sr. Elec. Equipment Tech	9
	Total	61
Underground	Journey Apprentice	13
	Driver Helper	0
	UG Inspector	4
	Journey UG Splicer	13
	Sr. UG Splicer	5
	UG Cable Tester/Installer	11
	Sr. UG Mechanic	6
	Network Operator	8
	Total	60
Overhead	Apprentice T&D	53
·	Rigger Specialist	5
	Equipment Attendant	1
	Equipment Material Handler	6
	Field Inspector	4
	Journey Lineworker	83
	Restricted HS Lineworker	6
	Rigger Crew Leader	1
	Service Crew Leader	5
	Shop Mechanic 2 Rigger	1
	Yard Group Leader	4
	Sr. Lineworker	57
	Distribution Tech	6
	Total	232
Street Light Changers	Total	6
Mobile Worker	Total	1

#### (e)(9) (Continued)

Engineering	Drafter	0
	General Clerk - Grad	10
	General Technician	0
	GIS Technician	5
	Head File Record Clerk	1
	Survey Instrument	3
	Right of Way Agent A	4
	Sr. Technician	10
	T&D Mobile Worker	8
	Technician A	2
	Technician B	6
	Technician C	5
	Test Technician, Mobile	6
	Total	60
Service Center Technician	Sr. Technician	7
	Technician	1
	Total	8
Traveling Operator/Troubleshooter	Senior Operator	35
	Traveling Operator	7
	Troubleshooter 1/C	5
	Troubleshooter	6
	Total	53
Load Dispatcher	Total	10
Meter Technician	Meter Technician	4
	Sr. Meter Technician	26
	Total	30
Meter Reader	Total	14
Customer Service Representatives	Autodialing Operator	8
	Customer Service Rep	111
	Word Processing Clerk	3
	Sr. Customer Service	3
	Telephone Switchboard	0
	Total	125
Admin/Supervisory/Mgmt	Total	389
	TOTAL	1075
	- +	

## (e)(10) Quarterly and year-to-date information on contractor hours and dollars for transmission and distribution operation and maintenance.

(Confidential information redacted)

(e)(11) Monthly call-out acceptance rate for transmission and distribution maintenance workers presented in terms of both the percentage of accepted call-outs and the amount of time it takes the EDC to obtain the necessary personnel. A brief description of the EDC's call-out procedure should be included when appropriate.

Call-Out Acceptance Rate – 4<sup>th</sup> Quarter 2012

Month	Accepts	Refusals	Total	Percentage
October	162	328	490	33.06%
November	106	257	363	29.20%
December	176	296	472	37.29%

Amount of Time it Takes to Obtain the Necessary Personnel – 4th Quarter 2012

Month	Total Callout Events	Necessary Personnel Accepting	Average Minutes per Calling Event		Obta	ge Minutes to in Necessary Personnel
October	66	162	8.3	550/66	3.4	550/162
November	53	106	11.6	613/53	5.8	613/106
December	77	176	14.6	1,125/77	6.4	1,125/176
4 <sup>th</sup> Quarter 2012	196	444	11.7	2,288/196	5.2	2,288/444
YTD	951	2,353	15.2	14,468/951	6.1	14,468/2,353

The numerator in the above equations equals the total number of minutes all of the callouts took during the given month/quarter/year. The denominator in the above equations equals the total number of callout events or the total number of workers accepting during the given month/quarter/year.

As an example, during the month of October, on average, it took Duquesne Light, 3.4 minutes, per worker, to obtain 162 accepts during the 66 callouts. It took Duquesne Light, on average, 8.3 total minutes to obtain the necessary personnel for each of its 66 callouts.

#### **ATTACHMENT A**

(e)(3) Rolling 12-month reliability index values (SAIFI, CAIDI, SAIDI, and if available, MAIFI) and other pertinent information such as customers served, number of interruptions, customer minutes interrupted, number of lockouts, and so forth, for the worst performing 5% of the circuits in the system.

Circuit	Name	Service Center	Device	Lockouts	Connected KVA	Last Outage	Total KVA- Minutes	Total KVA Interrupted	SAIDI	SAIFI	CAIDI
4266	Grant	Preble	BKR	4	5,879	09/26/12	3,396,869	28,180	578	4.79	121
4279	Squaw Run	Edison	BKR	4	3,216	12/20/12	806,504	1,327	251	0.41	608
22869	Midland- Cooks Ferry	Raccoon	BKR	6	34,481	09/12/12	20,830,988	121,374	604	3.52	172
23623	Raccoon	Raccoon	WA736	4	22,215	11/01/12	3,515,084	36,189	158	1.63	97
23661	Crescent	Raccoon	R100	5	27,415	10/30/12	5,306,369	56,484	194	2.06	94
23690	B.I.	Preble	WA395	4	22,182	12/11/12	4,951,395	37,261	223	1.68	133
23706	North	Edison	BKR	4	21,782	12/30/12	5,016,428	35,652	230	1.64	141
23733	Universal	Penn Hills	EA686	4	26,095	07/24/12	3,710,569	65,720	142	2.52	56
23870	Mt Nebo	Raccoon	WA551	8	26,795	11/12/12	15,700,561	113,107	586	4.22	139
23903	Plum	Penn Hills	EA12	4	28,245	07/26/12	7,331,350	79,244	260	2.81	93

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