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April 30, 2025

VIA ELECTRONIC FILING

M-2023-3039027- jbs

Secretary Matthew L. Homsher, Esq.
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
2nd Floor, Room-N201
400 North Street
Harrisburg, PA 17120

Re: **Duquesne Light Company 2024 Annual Electric Reliability Report**
Docket No. M-2016-2522508

Dear Secretary Homsher:

Please find enclosed for filing Duquesne Light Company's 2024 Annual Electric Reliability Report.

If you have any questions regarding the information contained in this filing, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink that reads "Mary Kellam". The signature is written in a cursive, flowing style.

Mary Kellam
Specialist, Regulatory Performance

Enclosure

Cc (w/enc.):

Bureau of Technical Utility Services (dsearfoorc@pa.gov; jvanzant@pa.gov)

Office of Consumer Advocate (ra-oca@paoca.org)

Office of Small Business Advocate (ra-sba@pa.gov)



2024 Annual Electric Reliability Report

to the

Pennsylvania Public Utility Commission

Duquesne Light Company
411 Seventh Avenue
Pittsburgh, PA 15219

April 30, 2025

**DUQUESNE LIGHT COMPANY
ANNUAL ELECTRIC RELIABILITY REPORT**

Filed April 30, 2025

52 Pa Code §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.**

Matthew Thimons – General Manager, Asset Management
(412) 393-8639, mthimons@duqlight.com

Wesley Terek – General Manager, System Planning & Protection
(412) 393-8324, wterek@duqlight.com

- (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 (“Duquesne Light” or “the Company”) service territory covers approximately 817 square miles, with a well-developed distribution system throughout. Electric service reliability remains very 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.

Achieving outstanding performance in system reliability continues to be one of Duquesne Light’s most important long-term objectives. The Asset Management and System Planning Groups perform ongoing analysis of reliability indices, root cause analysis of outages, and tracking and monitoring of other performance measures to identify improvement opportunities and optimize reliability. This long-term process includes making recommendations for capital projects such as circuit rehabilitation, new substations, and distribution circuits. It also includes implementation of new advanced protection and coordination schemes on the distribution system that better localize customer outages and reduce momentary outages.

Duquesne Light continues its Emergent Work Process, which is used to identify problems, set priorities, and resolve reliability issues as quickly as possible. Each day, field personnel perform field inspections and any abnormalities are logged into a database. This database is reviewed regularly and any high priority problems are identified and a course of action is determined. Analysis at the device level is used to identify small areas where customers have experienced multiple outages. Assessing only system level or even circuit level data may mask these isolated problems.

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

The capital budget for 2024 included projects to meet customer service requests and projects targeting distribution reliability and resiliency, including pole replacement, circuit load relief and voltage improvement, circuit voltage conversions, URD rehabilitation, aerial cable replacement, and construction of a new substation.

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

- A Distribution Overhead Line Inspection Program, which includes infrared inspections, that systematically identifies circuit problems for remedial action in advance of failure.
- Vegetation Management Maintenance Programs with the goal of reducing tree and branch failures through proactive pruning and removal to manage proper clearances. Duquesne Light believes that this program will help reduce the frequency of outages by addressing targeted tree failure conditions that typically result in physical damage to our facilities.
- An all pulse-reclosing protection technology has been implemented on some 23kV circuits. This technology eliminates traditional "hard reclosing," thereby making it easier and faster to conduct repairs and restore circuits to normal operation, enabling customers to be restored more quickly. This technology also reduces stress and damage on the entire circuit since the breaker is no longer required to trip, also contributing to the reduction in momentary outages to customers.
- Line maintenance work of various types is regularly performed in order to maintain the 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 major events. These meetings focus on the successes and challenges of the most recent emergency service restoration effort. Service restoration process improvements are made as needed to improve response time and effectiveness during the next restoration effort.

Finally, the Company implemented its Long-Term Infrastructure Improvement Plan (LTIIP) approved April 20, 2017¹ to accelerate its infrastructure program. The Company's second LTIIP was approved November 11, 2022, and spans January 1, 2023 through December 31, 2028.²

¹ Petition of Duquesne Light Company for Approval of its Long-Term Infrastructure Improvement Plan, Docket No. P-2016-2540046.

² Petition of Duquesne Light Company for Approval of its Second Long-Term Infrastructure Improvement Plan, Docket No. P-2022-3032805.

- (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.**

Duquesne Light experienced one major event during 2024.

This event occurred on June 17, 2024. Duquesne Light’s major outage event on June 17, 2024 was caused by a heat dome and microburst thunderstorms that began on Monday, June 17, 2024 at 16:29 hours and ended Monday, June 24, 2024 at 23:30 hours. The event affected 108,324 customers of the 612,752 total customers in DLC’s service territory. A combination of heat, rain, and high winds downed trees on power lines and caused extensive damage to poles and equipment throughout Duquesne Light's service territory in Allegheny and Beaver Counties.

- (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
2022	136	0.93	146	*
2023	63	0.57	110	*
2024	126.8	0.82	155.5	*
3 Year Average	108.6	0.77	137.2	*
Benchmark	126	1.17	108	*
12 Month Standard	182	1.40	130	*

* Sufficient information to calculate MAIFI is unavailable.

Duquesne Light has been a strong performer in reliability over the past 15 years. The Company’s success in this area can be partially attributed to the wide deployment of intelligent devices on the system that can quickly isolate a fault to the least number of customers.

Duquesne Light’s 2024 SAIFI performance is below both the benchmark and standard, while SAIDI performance is above the benchmark but below the standard. CAIDI performance is above both the benchmark and the standard. This can be attributed to unusually bad weather, including 7 non-excludable storm events.

Formulae Used in Calculating the Indices

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

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

$$CAIDI = \frac{SAIDI}{SAIFI}$$

Data used in calculating the indices

2024

Total kVA Interrupted for the Period:	6,445,756 kVA
Total kVA -Minutes Interrupted:	1,002,509,188 kVA-Minutes
System Connected Load as of 12/31/24:	7,906,797 kVA

2023

Total kVA Interrupted for the Period:	4,547,896 kVA
Total kVA -Minutes Interrupted:	501,561,985 kVA-Minutes
System Connected Load as of 12/31/23:	7,932,442 kVA

2022

Total kVA Interrupted for the Period:	7,363,584 kVA
Total kVA -Minutes Interrupted:	1,075,913,781 kVA-Minutes
System Connected Load as of 12/31/22:	7,932,778 kVA

(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, 2024 through December 31, 2024
One Major Event Excluded**

CAUSE	NO. OF OUTAGES	OUTAGE PERCENTAGE	kVA TOTAL	kVA PERCENTAGE	kVA-MINUTE TOTAL	kVA-MINUTE PERCENTAGE
Storms	500	17%	1,291,024	20%	305,978,407	31%
Trees (Inside ROW)	241	8%	358,430	6%	66,300,452	7%
Trees (Outside ROW)	775	27%	1,513,383	23%	293,109,815	29%
Equipment Failures	593	20%	1,603,827	25%	180,197,648	18%
Overloads	10	0%	9,266	0%	80,888	0%
Vehicles	163	6%	610,163	9%	69,433,037	7%
Contact / Dig In	22	1%	79,823	1%	6,477,605	1%
Animal Contact	117	4%	169,323	3%	15,062,072	2%
Unknown	363	13%	536,585	8%	41,423,046	4%
Other	111	4%	273,932	4%	24,446,218	2%
TOTALS	2,895	100%	6,445,756	100%	1,002,509,188	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 three circuits that have been on the worst performing 5% of circuits list for four consecutive quarters. The majority of these circuits have received remedial actions or are scheduled for maintenance activities in 2025 that are expected to improve their reliability. The Company will continue to monitor these circuits closely to verify that the remedial actions taken have been successful and that reliability has improved. Many of the circuits have already shown improvement as indicated in the following detailed descriptions.

Duquesne uses a sophisticated automated protection system on its 23kV circuits, which utilizes numerous 3-phase sectionalizers and reclosers on the main feeders and as ties to adjacent circuits. This automation technology with remote control generally allows circuit problems to be isolated and rerouted in less than five minutes. Generally, only a small portion of the customers on a worst performing circuit experience reliability issues.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
<p>1 23869 Wildwood Fuse Link</p>	<p>4 Total Outage(s)</p> <ul style="list-style-type: none"> • Two outages were caused by tree fall-in Inside ROW. • One outage was caused by tree fall-in Outside ROW. • One outage was by an unknown cause. 	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2023 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2026. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2020. Next maintenance proposed for 2025.
<p>2 23870 Mt. Nebo Breaker</p>	<p>5 Total Outage(s)</p> <ul style="list-style-type: none"> • Two outages were caused by storms. • One outage was caused by tree fall-in Outside ROW. • One outage was caused by tree fall-in Inside ROW. • One outage was caused by wires wrapped together causing a short circuit. 	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2022 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2027. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2021. Performed mid-cycle maintenance Q4 2023. Next maintenance proposed for 2025.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
<p>3 23640 Midland Breaker</p>	<p>3 Total Outage(s)</p> <ul style="list-style-type: none"> • One outage was by an unknown cause. • One outage was caused by tree fall-in Outside ROW. • One outage was caused by equipment failure. 	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2022 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2027. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2024. Next maintenance proposed for 2029.

(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.

2024 Transmission and Distribution Goals and Objectives

Program Project	Unit of Measurement	Target for 2024	Year End Actuals for 2024	Percent Complete
Communications Goals				
Communication Battery Maintenance	Batteries	112	114	102%
Overhead Distribution Goals				
Recloser Inspections	Circuits	114	114	100%
Pole Inspections	Poles	17,742	19,302	109%
OH Line Inspections	Circuits	114	114	100%
OH Transformer Inspections	Circuits	114	114	100%
Padmount & Below Grade Insp	Circuits	78	78	100%
Overhead Transmission Goals				
Helicopter Inspections	Structures	590	590	100%
Ground Inspections	Circuits	7	7	100%
Substations Goals				
Circuit Breaker Maintenance	Breakers	305	309	101%
Station Transformer Maintenance	Transformers	48	52	108%
Station Battery Maintenance	Batteries	852	847	99%
Station Relay Maintenance	Relays	1,359	1,214	89%*
Station Inspections	Sites	1,884	1,877	100%
Underground Distribution Goals				
Manhole Inspections	Manholes	700	753	108%
Major Network Insp (Prot Relay)	Ntwk Protectors	92	100	109%
Minor Network Visual Inspection (Transformer/Protector/Vault)	Ntwk Transformers	571	571	100%
Underground Transmission Goals				
Pressurization and Cathodic Protection Plant Inspection	Work Orders	424	427	101%
Vegetation Management Goals				
Overhead Line Clearance	Circuit Overhead Miles	1,300	1,303	100%

* The variance between the percent complete and the annual target is due to cancelled maintenance activities for equipment no longer in service.

(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.

Budget Variance Recap – O&M Expenses
For the Twelve Months Ending December 31, 2024
Favorable/(Unfavorable)

	Total Actual	Total Budget	Variance
Customer Service	\$83,279,843	\$69,593,931	(\$13,685,912)
Human Resources	\$14,443,627	\$24,695,589	\$10,251,962
Operations/Operation Services	\$50,787,317	\$50,241,858	(\$545,459)
Technology	\$50,817,738	\$54,108,248	\$3,290,510
General Corporate*	\$77,181,682	\$70,357,896	(\$6,823,786)
Total	\$276,510,207	\$268,997,522	(\$7,512,685)

* Includes Finance, Office of General Counsel, and Senior Management Costs

O&M expenses were unfavorable to budget primarily due to uncollectable revenue, but they were partially offset by labor-related expenses and dedicated cost management efforts.

(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.

Budget Variance Recap – Capital
For the Twelve Months Ending December 31, 2024
Favorable/(Unfavorable)

	Total Actual	Total Budget	Variance
Customer Service	\$13,467,442	\$22,688,360	\$9,220,918
Human Resources	\$24,271,670	\$17,312,198	(\$6,959,472)
Operations/Operation Services	\$357,260,749	\$367,814,794	\$10,554,045
Technology	\$55,606,701	\$43,618,941	(\$11,987,760)
General Corporate*	\$97,660,807	\$86,965,432	(\$10,695,375)
Total	\$548,267,369	\$538,399,725	(\$9,867,644)

* Includes Finance, Office of General Counsel, and Senior Management Costs

Capital investment was \$9.9 million higher than budgeted primarily due to increased restoration activity, timing of investment on a key substation replacement, and additional technology investment to support and invest in the Company's technology landscape. Partially offsetting this additional investment were lower capital outlays as a result of timing of construction on other major projects.

(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).

2025 Transmission and Distribution Goals and Objectives

Program Project	Unit of Measurement	Target for Year 2025
Communications Goals		
Communication Battery Maintenance	Batteries	112
Overhead Distribution Goals		
Recloser Inspections	Circuits	119
Pole Inspections	Poles	17,663
OH Line Inspections	Circuits	119
OH Transformer Inspections	Circuits	119
Padmount & Below Grade Insp	Circuits	81
Overhead Transmission Goals		
Helicopter Inspections	Structures	590
Ground Inspections	Circuits	10
Substations Goals		
Circuit Breaker Maintenance	Breakers	344
Station Transformer Maintenance	Transformers	44
Station Battery Maintenance	Batteries	846
Station Relay Maintenance	Relays	1,268
Station Inspections	Sites	1,869
Underground Distribution Goals		
Manhole Inspections	Manholes	674
Major Network Insp (Prot Relay)	Network Protectors	100
Minor Network Visual Inspection (Transformer/Protector/Vault)	Network Transformers	572
Underground Transmission Goals		
Pressurization and Cathodic Protection Plant Inspection	Work Orders	424
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 EDC functional account.

	Total Budget
Customer Service	\$70,841,514
Human Resources	\$25,758,501
Operations/ Operation Services	\$49,778,446
Technology	\$54,642,809
General Corporate*	\$66,028,548
Total	\$267,049,818

*Includes Finance, Office of General Counsel, and Senior Management Costs

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

	Total Budget
Customer Service	\$21,705,568
Human Resources	\$19,543,124
Operations/ Operation Services	\$388,749,545
Technology	\$55,240,268
General Corporate*	\$89,949,210
Total	\$575,187,715

*Includes Finance, Office of General Counsel, and Senior Management Costs

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

Duquesne Light has not made any significant changes to its transmission and distribution inspection and maintenance programs.