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April 28, 2023

VIA ELECTRONIC FILING

Ms. Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
2nd Floor, Room-N201
400 North Street
Harrisburg, PA 17120

**Re: Duquesne Light Company 2022 Annual Electric Reliability Report
Docket No. M-2016-2522508**

Dear Secretary Chiavetta:

Please find enclosed for filing Duquesne Light Company's 2022 Annual Electric Reliability Report.

If you have any questions regarding the information contained in this filing, please contact me or Megan Good at mgood@duqlight.com or 412-393-6496.

Sincerely,

A handwritten signature in blue ink, appearing to read "LB Baxter".

Lindsay A. Baxter
Manager, Regulatory and Clean Energy Strategy

Enclosure

Cc (w/ enc.):

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

Office of Consumer Advocate (pcicero@paoca.org)

Office of Small Business Advocate (sgray@pa.gov, swebb@pa.gov)



2022 Annual Electric Reliability Report
to the
Pennsylvania Public Utility Commission

Duquesne Light Company
411 Seventh Avenue
Pittsburgh, PA 15219

April 28, 2023

**DUQUESNE LIGHT COMPANY
ANNUAL ELECTRIC RELIABILITY REPORT**

Filed April 28, 2023

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

Jason Keller – Director, Operations Center
(412) 393-2897, jkeller@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.

Several capital budget projects in 2022 targeted 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 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 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.

No major events occurred during 2022.

- (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
2020	111	0.85	131	*
2021	172	0.93	185	*
2022	134	0.92	146	*
3 Year Average	139	0.90	154	*
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 at least partially attributed to the wide deployment of intelligent devices on the system that can quickly isolate a fault to the least number of customers.

Formulae Used in Calculating the Indices

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

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

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

Data used in calculating the indices

2022

Total kVA Interrupted for the Period:	7,310,506 kVA
Total kVA -Minutes Interrupted:	1,065,759,422 kVA-Minutes
System Connected Load as of 12/31/22	7,932,778 kVA

2021

Total kVA Interrupted for the Period:	7,318,901 kVA
Total kVA -Minutes Interrupted:	1,356,809,432 kVA-Minutes
System Connected Load as of 12/31/21	7,869,335 kVA

2020

Total kVA Interrupted for the Period:	6,526,802 kVA
Total kVA -Minutes Interrupted:	857,694,773 kVA-Minutes
System Connected Load as of 12/31/20:	7,722,291 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, 2022 through December 31, 2022
No Major Event Exclusions**

CAUSE	NO. OF OUTAGES	OUTAGE PERCENTAGE	kVA TOTAL	kVA PERCENTAGE	kVA-MINUTE TOTAL	kVA-MINUTE PERCENTAGE
Storms	522	16%	1,496,559	20%	263,009,913	25%
Trees (Inside ROW)	308	9%	454,431	6%	89,080,338	8%
Trees (Outside ROW)	895	27%	1,688,338	23%	367,069,982	34%
Equipment Failures	732	22%	2,003,351	27%	209,154,686	20%
Overloads	32	1%	48,680	1%	2,229,080	<1%
Vehicles	179	5%	431,649	6%	52,551,945	5%
Contact/Dig In	35	1%	105,843	1%	9,389,761	1%
Animal Contact	123	4%	159,520	2%	13,046,862	1%
Unknown	359	11%	534,706	7%	36,261,766	3%
Other	150	4%	387,429	5%	23,965,089	2%
TOTALS	3,335	100%	7,310,506	100%	1,065,759,422	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 five 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 2023 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 22869 Midland-Cooks Ferry Breaker</p>	<p>4 Total Outage(s)</p> <p>Fourth Quarter Outage(s):</p> <ul style="list-style-type: none"> • No outage(s). <p>Previous Outage(s):</p> <ul style="list-style-type: none"> • Two outages were caused by storms. • One outage was caused by wires wrapping together that caused a short circuit. • One outage was caused by high winds. 	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2019 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2024. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2022. Proposed for 2027.
<p>2 23770 Traverse Run Fuse Link</p>	<p>10 Total Outage(s)</p> <p>Fourth Quarter Outage(s):</p> <ul style="list-style-type: none"> • No outage(s). <p>Previous Outage(s):</p> <ul style="list-style-type: none"> • Four outages were due to unknown causes. • Four outages were caused by high winds. • One outage was caused by wires wrapping together that caused a short circuit. • One outage was caused by a storm. 	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2018 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2023. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q2 2020. Proposed for 2025.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
<p>3 23732 Universal Breaker</p>	<p>3 Total Outage(s)</p> <p>Fourth Quarter Outage(s):</p> <ul style="list-style-type: none"> • No outage(s). <p>Previous Outage(s):</p> <ul style="list-style-type: none"> • Two outages were caused by equipment failure. • One outage was caused by high winds. 	<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 Q1 2022. Proposed for 2025.
<p>4 23602 Clinton³ Fuse Link</p>	<p>8 Total Outage(s)</p> <p>Fourth Quarter Outage(s):</p> <ul style="list-style-type: none"> • No outage(s). <p>Previous Outage(s):</p> <ul style="list-style-type: none"> • Five outages were due to unknown causes. • One outage was caused by icing. • One outage was caused by high winds. • One outage was caused by a storm. 	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • Next Overhead Line Inspection planned for 2023. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management proposed for 2025.

³ Clinton 23602 was established as a new circuit in 2021, which absorbed a portion of the existing Traverse Run Circuit D23770 (inspected in 2018).

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
<p>5 23843 Arsenal Fuse Link</p>	<p>3 Total Outage(s)</p> <p>Fourth Quarter Outage(s):</p> <ul style="list-style-type: none"> • One outage was caused by a storm. <p>Previous Outage(s):</p> <ul style="list-style-type: none"> • One outage was caused by high winds. • One outage was caused by a storm. 	<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. • Overhead Line Inspection planned for 2026. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2022. Proposed for 2026.
<p>6 23681 Woodville Breaker</p>	<p>2 Total Outage(s)</p> <p>Fourth Quarter Outage(s):</p> <ul style="list-style-type: none"> • No outage(s). <p>Previous Outage(s):</p> <ul style="list-style-type: none"> • One outage was caused by high winds. • 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 2019 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2024. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2021. Proposed for 2026.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
<p>7 23699 Brunot Island Recloser</p>	<p>2 Total Outage(s)</p> <p>Fourth Quarter Outage(s):</p> <ul style="list-style-type: none"> • One outage was caused by a storm. <p>Previous Outage(s):</p> <ul style="list-style-type: none"> • 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 2026. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q3 2019. Proposed for 2023.
<p>8 23670 Montour Fuse Link</p>	<p>2 Total Outage(s)</p> <p>Fourth Quarter Outage(s):</p> <ul style="list-style-type: none"> • No outage(s). <p>Previous Outage(s):</p> <ul style="list-style-type: none"> • One outage was caused by tree fall-in Outside ROW. • One outage was caused by high winds. 	<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 2026. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q3 2022. Proposed for 2026.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
<p>9 23870 Mt. Nebo Fuse Link</p>	<p>5 Total Outage(s)</p> <p>Fourth Quarter Outage(s):</p> <ul style="list-style-type: none"> • No outage(s). <p>Previous Outage(s):</p> <ul style="list-style-type: none"> • Two outages were caused by tree fall-in Inside ROW. • Two outages were 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 2022 and all high priority repairs completed. • Overhead Line Inspection planned for 2027. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2021. Proposed for 2025.
<p>10 23953 Evergreen Breaker</p>	<p>2 Total Outage(s)</p> <p>Fourth Quarter Outage(s):</p> <ul style="list-style-type: none"> • No outage(s). <p>Previous Outage(s):</p> <ul style="list-style-type: none"> • One outage was caused by the malfunction of company protective equipment. • One outage was caused by wires wrapping together that caused a short circuit. 	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2020 and all high priority repairs completed. • Overhead Line Inspection planned for 2025. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q2 2022. Proposed for 2025.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
<p>11 23842 Arsenal Recloser</p>	<p>4 Total Outage(s)</p> <p>Fourth Quarter Outage(s):</p> <ul style="list-style-type: none"> • One outage was caused by tree fall-in Outside ROW. • One outage was caused by equipment failure. <p>Previous Outage(s):</p> <ul style="list-style-type: none"> • One outage was caused by a storm. • 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 2020 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2025. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2022. Proposed for 2026.
<p>12 23745 Oakland Recloser</p>	<p>2 Total Outage(s)</p> <p>Fourth Quarter Outage(s):</p> <ul style="list-style-type: none"> • One outage was caused by tree fall-in Outside ROW. <p>Previous Outage(s):</p> <ul style="list-style-type: none"> • One outage was caused by tree fall-in Outside ROW. 	<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 2020. Proposed for 2024.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
<p>13 22358 Carnegie- Calgon Breaker</p>	<p>1 Total Outage(s) Fourth Quarter Outage(s):</p> <ul style="list-style-type: none"> • No outage(s). <p>Previous Outage(s):</p> <ul style="list-style-type: none"> • One outage was caused by tree fall-in Inside ROW. 	<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 2026. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q3 2021. Proposed for 2026.
<p>14 23763 Wilmerding Recloser</p>	<p>3 Total Outage(s) Fourth Quarter Outage(s):</p> <ul style="list-style-type: none"> • One outage was by an unknown cause. <p>Previous Outage(s):</p> <ul style="list-style-type: none"> • Two outages were caused by tree fall-in Outside ROW. 	<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 Q3 2019. Proposed for 2023.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
<p>15 23660 Crescent Fuse Link</p>	<p>7 Total Outage(s)</p> <p>Fourth Quarter Outage(s):</p> <ul style="list-style-type: none"> • No outage(s). <p>Previous Outage(s):</p> <ul style="list-style-type: none"> • Four outages were caused by high winds. • Two outages were by unknown causes. • One outage was caused by excess slack. 	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2020 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2025. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q3 2020. Proposed for 2026.
<p>16 23612 Findlay Fuse Link</p>	<p>2 Total Outage(s)</p> <p>Fourth Quarter Outage(s):</p> <ul style="list-style-type: none"> • No outage(s). <p>Previous Outage(s):</p> <ul style="list-style-type: none"> • One outage was due to an unknown cause. • 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 Q2 2021. Proposed for 2025.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
<p>17 23716 Pine Creek Breaker</p>	<p>6 Total Outage(s)</p> <p>Fourth Quarter Outage(s):</p> <ul style="list-style-type: none"> • One outage was caused by outside contractor work. <p>Previous Outage(s):</p> <ul style="list-style-type: none"> • Two outages were caused by wires wrapping together that caused short circuits. • One outage was caused by a loss of supply. • One outage was caused by a storm. • 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 2019 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2024. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q2 2019. Proposed for 2023.
<p>18 23703 North Fuse Link</p>	<p>2 Total Outage(s)</p> <p>Fourth Quarter Outage(s):</p> <ul style="list-style-type: none"> • No outage(s). <p>Previous Outage(s):</p> <ul style="list-style-type: none"> • 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 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. Proposed for 2026.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
<p>19 4453 Rosslyn Breaker</p>	<p>2 Total Outage(s)</p> <p>Fourth Quarter Outage(s):</p> <ul style="list-style-type: none"> • No outage(s). <p>Previous Outage(s):</p> <ul style="list-style-type: none"> • One outage was caused by tree fall-in Inside 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 2019 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2024. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2021. Proposed for 2026.
<p>20 23698 Brunot Island Recloser</p>	<p>2 Total Outage(s)</p> <p>Fourth Quarter Outage(s):</p> <ul style="list-style-type: none"> • No outage(s). <p>Previous Outage(s):</p> <ul style="list-style-type: none"> • Two outages were 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 2019 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2024. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q1 2019. Proposed for 2023.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
<p>21 23692 Brunot Island Fuse Link</p>	<p>2 Total Outage(s)</p> <p>Fourth Quarter Outage(s):</p> <ul style="list-style-type: none"> • No outage(s). <p>Previous Outage(s):</p> <ul style="list-style-type: none"> • Two outages were caused by storms. 	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2019 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2024. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q1 2019. Proposed for 2023.
<p>22 23844 Arsenal Fuse Link</p>	<p>2 Total Outage(s)</p> <p>Fourth Quarter Outage(s):</p> <ul style="list-style-type: none"> • One outage was due to an unknown cause. <p>Previous Outage(s):</p> <ul style="list-style-type: none"> • One outage was caused by wires wrapping together that caused a short circuit. 	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2020 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2025. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q2 2021. Proposed for 2026.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
<p>23 23672 Montour Fuse Link</p>	<p>2 Total Outage(s)</p> <p>Fourth Quarter Outage(s):</p> <ul style="list-style-type: none"> • No outage(s). <p>Previous Outage(s):</p> <ul style="list-style-type: none"> • Two outages were 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 2023 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2028. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2022. Proposed for 2026.
<p>24 23631 Sewickley Breaker</p>	<p>4 Total Outage(s)</p> <p>Fourth Quarter Outage(s):</p> <ul style="list-style-type: none"> • No outage(s). <p>Previous Outage(s):</p> <ul style="list-style-type: none"> • Three outages were caused by tree fall-in Outside ROW. • One outage was caused by tree fall-in Inside ROW. 	<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 2026. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2021. Proposed for 2025.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
<p>25 23693 Brunot Island Sectionalizer</p>	<p>2 Total Outage(s)</p> <p>Fourth Quarter Outage(s):</p> <ul style="list-style-type: none"> • No outage(s). <p>Previous Outage(s):</p> <ul style="list-style-type: none"> • 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 2026. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q3 2019. Proposed for 2023.
<p>26 23685 West End Breaker</p>	<p>4 Total Outage(s)</p> <p>Fourth Quarter Outage(s):</p> <ul style="list-style-type: none"> • No outage(s). <p>Previous Outage(s):</p> <ul style="list-style-type: none"> • One outage was caused by contact with company equipment by vehicle. • One outage was caused by a landslide. • One outage was caused by high winds. • 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 2026. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q3 2019. Proposed for 2023.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
<p>27 23706 North Fuse Link</p>	<p>2 Total Outage(s)</p> <p>Fourth Quarter Outage(s):</p> <ul style="list-style-type: none"> • One outage was caused by equipment failure. <p>Previous Outage(s):</p> <ul style="list-style-type: none"> • 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 2026. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2022. Proposed for 2026.

- (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.

2022 Transmission and Distribution Goals and Objectives

Program Project	Unit of Measurement	Target for 2022	Year End Actuals for 2022	Percent Complete
Communications Goals				
Communication Battery Maintenance	Batteries	128	124	97%
Overhead Distribution Goals				
Recloser Inspections	Circuits	131	131	100%
Pole Inspections	Poles	17,814	19,791	111%
OH Line Inspections	Circuits	131	131	100%
OH Transformer Inspections	Circuits	131	131	100%
Padmount & Below Grade Insp	Circuits	80	80	100%
Overhead Transmission Goals				
Helicopter Inspections ⁴	Circuits	11	15	136%
Ground Inspections	Number of Structures	347	410	118%
Substations Goals				
Circuit Breaker Maintenance	Breakers	387	398	103%
Station Transformer Maintenance	Transformers	49	49	100%
Station Battery Maintenance	Batteries	860	856	100%
Station Relay Maintenance	Relays	1,537	1,629	106%
Station Inspections	Sites	1,896	1,887	100%
Underground Distribution Goals				
Manhole Inspections	Manholes	700	743	106%
Major Network Insp (Prot Relay)	Ntwk Protectors	92	92	100%
Minor Network Visual Inspection (Transformer/Protector/Vault)	Ntwk Transformers	576	636	110%
Underground Transmission Goals				
Pressurization and Cathodic Protection Plant Inspection	Work Orders	424	423	100%
Vegetation Management Goals				
Overhead Line Clearance	Circuit Overhead Miles	1,300	1,325	102%

⁴ Inspections are selected on a circuit basis; the selected circuits accounted for a higher overall circuit count in 2021 than projected.

(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, 2022
Favorable/(Unfavorable)

	Total Actual	Total Budget	Variance
Customer Service	\$58,264,618	\$66,862,826	\$8,598,208
Human Resources	\$27,325,491	\$19,518,035	(\$7,807,456)
Operations/Operation Services	\$57,410,705	\$55,239,218	(\$2,171,487)
Technology	\$50,503,784	\$51,219,673	\$715,889
General Corporate*	\$77,729,902	\$76,389,734	(\$1,340,168)
Total	\$271,234,500	\$269,229,486	(\$2,005,014)

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

The O&M expense underspend for the twelve months ended December 31, 2022, is attributable to lower bad debt expense (Customer Service), lower medical expenses and 401k expenses (Human Resources), and ancillary transmission spend (General Corporate), partially offset by higher support costs related to system implementations (Information Technology).

(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, 2022
Favorable/(Unfavorable)

	Total Actual	Total Budget	Variance
Customer Service	\$9,969,927	\$8,857,864	(\$1,112,063)
Human Resources	\$18,482,241	\$14,993,070	(\$3,489,171)
Operations/Operation Services	\$289,935,594	\$289,040,876	(\$894,718)
Technology	\$41,327,643	\$49,350,844	\$8,023,201
General Corporate*	\$74,876,629	\$64,666,158	(\$10,210,471)
Total	\$434,592,034	\$426,908,812	(\$7,683,222)

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

The capital expense underspend for the twelve months ended December 31, 2022, is attributable to lower than budgeted capital expenditures associated with delays in large transmission and distribution projects (Operations) and miscellaneous IT projects (Information Technology), partially offset by professional services fees and storm restoration activity (General Corporate).

(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).

2023 Transmission and Distribution Goals and Objectives

Program Project	Unit of Measurement	Target for Year 2023
Communications Goals		
Communication Battery Maintenance	Batteries	124
Overhead Distribution Goals		
Recloser Inspections	Circuits	129
Pole Inspections	Poles	17,695
OH Line Inspections	Circuits	129
OH Transformer Inspections	Circuits	129
Padmount & Below Grade Insp	Circuits	82
Overhead Transmission Goals		
Helicopter Inspections	Circuits	23
Ground Inspections	Number of Structures	283
Substations Goals		
Circuit Breaker Maintenance	Breakers	515
Station Transformer Maintenance	Transformers	55
Station Battery Maintenance	Batteries	856
Station Relay Maintenance	Relays	1,382
Station Inspections	Sites	1,884
Underground Distribution Goals		
Manhole Inspections	Manholes	700
Major Network Insp (Prot Relay)	Network Protectors	92
Minor Network Visual Inspection (Transformer/Protector/Vault)	Network Transformers	576
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	\$67,012,825
Human Resources	\$20,193,114
Operations/ Operation Services	\$71,796,849
Technology	\$51,012,132
General Corporate*	\$59,514,565
Total	\$269,529,485

*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	\$8,857,864
Human Resources	\$14,993,070
Operations/ Operation Services	\$323,409,946
Technology	\$49,350,844
General Corporate*	\$30,297,088
Total	\$426,908,812

*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.