

Lindsay A. Baxter
Manager, State Regulatory Strategy
lbaxter@duqlight.com
(412) 393-6224



April 30, 2020

VIA E-FILE

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 2019 Annual Electric Reliability Report
Docket No. M-2016-2522508**

Dear Secretary Chiavetta:

Please find enclosed for filing Duquesne Light Company's 2019 Annual Electric Reliability Report.

Upon receipt, if you have any questions regarding the information contained in this filing, please contact me or Chris Johnson at cljohnson@duqlight.com or 412-393-6496.

Sincerely,

A handwritten signature in blue ink, appearing to read "L.A. Baxter", with a long horizontal flourish extending to the right.

Lindsay A. Baxter

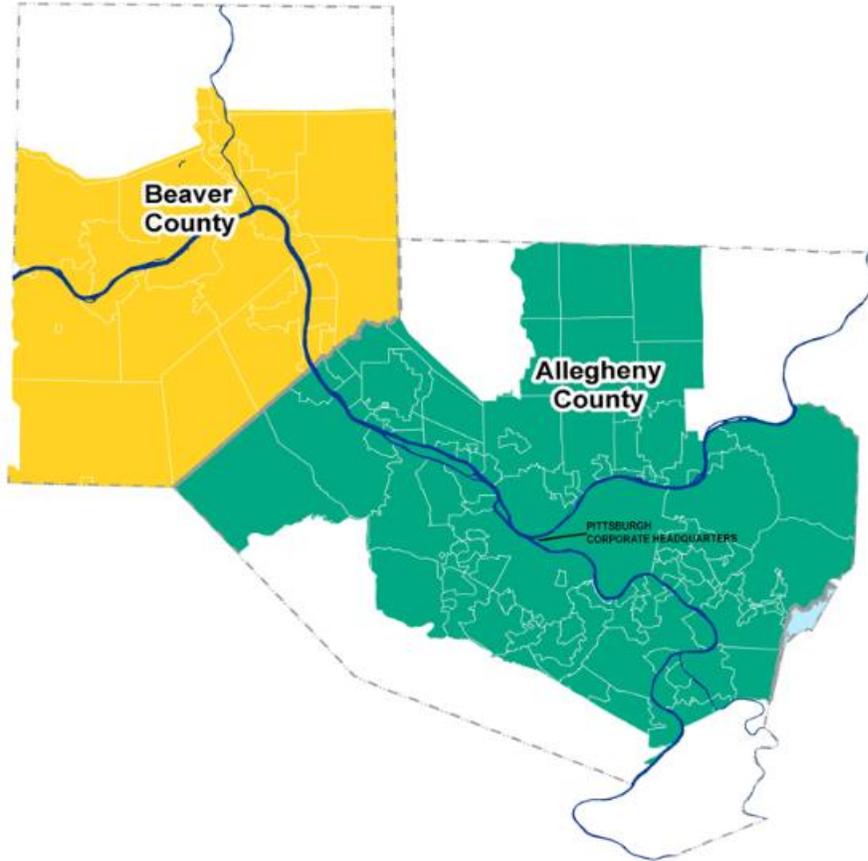
Enclosure

Cc (w/ enc.):

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

Office of Consumer Advocate (TMcCloskey@paoca.org)

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



2019 Annual Electric Reliability Report

to the

Pennsylvania Public Utility Commission

Duquesne Light Company
411 Seventh Avenue
Pittsburgh, PA 15219

April 30, 2020

**DUQUESNE LIGHT COMPANY
ANNUAL ELECTRIC RELIABILITY REPORT**

Filed April 30, 2020

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 G. Bucek – General Manager, Asset Management
(412) 393-8878, mbucek@duqlight.com

Jason Keller – General Manager, 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 performs ongoing analysis of reliability indices, root cause analysis of outages, and tracking and monitoring of other performance measures. This is a long-term process designed to optimize reliability and to identify improvement opportunities. This 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 operations.

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 by the Emergent Work Team 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. 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.

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 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 Light's commitment to service reliability include:

- A Distribution Overhead Line Inspection Program, which includes infrared inspections, that systemically identifies circuit problems for remedial action in advance of failure.
- A Rights-of-Way Vegetation Management Maintenance Program 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 failures 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.

On April 20, 2017, the Commission adopted the Recommended Decision¹ approving the Company's amended LTIP/DSIC and the Company has begun its accelerated infrastructure program.

¹ Petition of Duquesne Light Company for Approval of Its Long-Term Infrastructure Improvement Plan for period January 1, 2017 through December 31, 2022, Docket No. P-2016-2540046

- (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 had one major event that occurred on February 24, 2019. This event began on Sunday, February 24, 2019 at 0700 hours and ended on Friday, March 1, 2019 at 0045 hours. A total of 140,187 customers were affected throughout the course of this wind event, constituting 23% of the 600,248 total customers in Duquesne Light’s service territory.

This outage event was caused by extremely high winds that moved through Allegheny and Beaver counties on Sunday morning, February 24, 2019 and continued for over 24 hours into Monday, February 25, 2019. These high winds downed trees on our power lines and caused extensive damage to our sub-transmission and distribution facilities throughout Duquesne Light’s service territory. This high wind event ranked among the top three in customer outages over the last 20 years for Duquesne Light.

Please see Duquesne Light’s Electric Utility Report of Outage, dated March 14, 2019, and Duquesne Light’s Major Event Exclusion Report dated March 21, 2019 for more information regarding this outage event. The PUC approved Duquesne Light’s major event exclusion request, as defined in 52 PA Code §57.192, on April 25, 2019.

- (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
2017	112	0.97	115	*
2018	89	0.84	106	*
2019	106	1.01	106	*
3 Year Average	102	0.94	109	*
Benchmark	126	1.17	108	*

* 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

2019

Total KVA Interrupted for the Period: (excluding 2/24/19 Major Event)	7,296,110 KVA
Total KVA-Minutes Interrupted: (excluding 2/24/19 Major Event)	772,081,564 KVA-Minutes
System Connected Load as of 12/31/19:	7,259,129 KVA
February 24, 2019 Major Event:	1,682,200 KVA (23% of System Load) 784,246,585 KVA-Minutes

2018

Total KVA Interrupted for the Period: (excluding 11/15/18 Major Event)	6,086,512 KVA
Total KVA-Minutes Interrupted: (excluding 11/15/18 Major Event)	646,765,080 KVA-Minutes
System Connected Load as of 12/31/18:	7,259,129 KVA
November 15, 2018 Major Event:	760,135 KVA (10.5% of System Load) 316,283,090 KVA-Minutes

2017

Total KVA Interrupted for the Period	7,069,591 KVA
Total KVA-Minutes Interrupted	812,332,647 KVA-Minutes
System Connected Load as of 12/31/17:	7,259,129 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, 2019 through December 31, 2019 – Excludes One PUC Major Event
that occurred on February 24, 2019

CAUSE	NO. OF OUTAGES	OUTAGE PERCENTAGE	KVA TOTAL	KVA PERCENTAGE	KVA-MINUTE TOTAL	KVA-MINUTE PERCENTAGE
Storms	357	11%	933,511	13%	119,004,324	15%
Trees (Inside ROW)	360	11%	330,331	4%	58,540,342	8%
Trees (Outside ROW)	845	26%	1,942,015	27%	258,246,809	33%
Equipment Failures	768	24%	2,102,217	29%	196,429,852	25%
Overloads	49	1%	20,295	1%	1,462,984	1%
Vehicles	183	6%	597,611	8%	55,330,726	7%
Contact/Dig In	20	1%	91,615	1%	3,130,864	1%
Animal Contact	120	4%	262,093	4%	12,217,572	2%
Unknown	355	11%	615,090	8%	33,689,339	4%
Other	183	5%	401,332	5%	34,028,752	4%
TOTALS	3,240	100%	7,296,110	100%	772,081,564	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 2020 that are expected to improve their reliability. The Company will continue to monitor these circuits closely during 2020 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</p> <p>Mt Nebo 23871</p> <p>Recloser WR853</p>	<p>5 Total Outages:</p> <p>Fourth Quarter Outages:</p> <ul style="list-style-type: none"> • No Outages <p>Previous Outages:</p> <ul style="list-style-type: none"> • Five outages caused by tree fall-in. 	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Vegetation Management completed Q4 2017. Proposed for 2021.
<p>2</p> <p>Midland-Cooks Ferry 22869</p> <p>Recloser SWR262</p>	<p>4 Total Outages:</p> <p>Fourth Quarter Outages:</p> <ul style="list-style-type: none"> • Two outages caused by wires wrapped together. <p>Previous Outages:</p> <ul style="list-style-type: none"> • One outage caused by tree fall-in. • One outage caused by equipment failure. 	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Vegetation Management completed Q4 2017. Proposed for 2022. • This circuit was reviewed by Protection Engineering to identify any potential device coordination issues. Further work to resolve device coordination issues was completed Q1 2019.
<p>3</p> <p>Logans Ferry 23921</p> <p>Fuse Link 80E</p>	<p>3 Total Outages:</p> <p>Fourth Quarter Outages:</p> <ul style="list-style-type: none"> • One outage caused by tree fall-in. <p>Previous Outages:</p> <ul style="list-style-type: none"> • One outage cause unknown. • One outage caused by high winds 	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Vegetation Management completed Q4 2016. Proposed for Q4 2020.
<p>4</p> <p>Traverse Run 23770</p> <p>Breaker</p>	<p>3 Total Outages:</p> <p>Fourth Quarter Outages:</p> <ul style="list-style-type: none"> • One outage caused by equipment failure. • One outage caused by storm. <p>Previous Outages:</p> <ul style="list-style-type: none"> • One outage caused by tree fall-in. 	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Vegetation management completed Q3 2018; Proposed for 2022.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
<p>5 Pine Creek 23716 Breaker</p>	<p>4 Total Outages: Fourth Quarter Outages: <ul style="list-style-type: none"> • One outage caused by tree fall-in. Previous Outages: <ul style="list-style-type: none"> • One outage caused by tree fall-in. • Two outages caused by equipment failure. </p>	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Vegetation Management completed Q1 2019. Proposed for 2023.
<p>6 Pine Creek 23714 Fuse Link 80E</p>	<p>4 Total Outages: Fourth Quarter Outages: <ul style="list-style-type: none"> • No Outages. Previous Outages: <ul style="list-style-type: none"> • One outage caused by equipment failure. • One outage caused by tree fall-in. • One outage caused by animal contact. • One outage caused by contact with vehicle </p>	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Vegetation Management completed Q4 2018. Proposed for 2023. • This circuit was reviewed by Protection Engineering to identify any potential device coordination issues. The devices were coordinating properly and no further action is necessary.
<p>7 Rankin 23882 Fuse Link 80E</p>	<p>3 Total Outages: Fourth Quarter Outages: <ul style="list-style-type: none"> • One outage cause unknown. Previous Outages: <ul style="list-style-type: none"> • Two outages caused by tree fall-in. </p>	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Vegetation Management completed Q1 2017. Proposed for 2021.
<p>8 Mt Nebo 23870 Fuse Link 65K</p>	<p>4 Total Outages: Fourth Quarter Outages: <ul style="list-style-type: none"> • No outages. Previous Outages: <ul style="list-style-type: none"> • Four outages caused by tree fall-in. </p>	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Vegetation Management completed Q4 2017. Proposed for 2021.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
<p>9</p> <p>Evergreen 23953</p> <p>Recloser ER703</p>	<p>5 Total Outages:</p> <p>Fourth Quarter Outages:</p> <ul style="list-style-type: none"> • One outage caused by contact with vehicle. • One outage caused by tree fall-in. <p>Previous Outages:</p> <ul style="list-style-type: none"> • Two outages caused by tree fall-in. • One outage caused by flood. 	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Vegetation Management completed Q3 2016. Proposed for 2021.
<p>10</p> <p>Arsenal 23841</p> <p>Fuse Link 80E</p>	<p>2 Total Outages:</p> <p>Fourth Quarter Outages:</p> <ul style="list-style-type: none"> • One outage caused by animal contact. <p>Previous Outages:</p> <ul style="list-style-type: none"> • One outage caused by equipment failure. 	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues.
<p>11</p> <p>Wildwood 23869</p> <p>Recloser R100</p>	<p>4 Total Outages:</p> <p>Fourth Quarter Outages:</p> <ul style="list-style-type: none"> • One outage caused by tree fall-in. <p>Previous Outages:</p> <ul style="list-style-type: none"> • Three outage caused by tree fall-in. 	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Vegetation Management completed Q4 2016. Proposed for 2020.
<p>12</p> <p>Arsenal 23840</p> <p>Recloser WR453</p>	<p>4 Total Outages:</p> <p>Fourth Quarter Outages:</p> <ul style="list-style-type: none"> • No outages. <p>Previous Outages:</p> <ul style="list-style-type: none"> • Two outages caused by equipment failure. • One outage caused by wires wrapped. • One outage caused by animal contact. 	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Overhead Line Inspection of Arsenal 23840 is slated to be performed in 2020.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
<p>13</p> <p>Pine Creek 23711</p> <p>Breaker</p>	<p>5 Total Outages:</p> <p>Fourth Quarter Outages:</p> <ul style="list-style-type: none"> • No outages. <p>Previous Outages:</p> <ul style="list-style-type: none"> • Four outages caused by tree fall-in. • One outage caused by equipment failure. 	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Vegetation Management completed Q4 2015. Proposed for 2021.
<p>14</p> <p>Highland 23820</p> <p>Sectionalizer EA891</p>	<p>2 Total Outages:</p> <p>Fourth Quarter Outages:</p> <ul style="list-style-type: none"> • No outages. <p>Previous Outages:</p> <ul style="list-style-type: none"> • Two outages caused by contact with vehicle. 	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues.
<p>15</p> <p>Legionville 23791</p> <p>Recloser R100</p>	<p>2 Total Outages:</p> <p>Fourth Quarter Outages:</p> <ul style="list-style-type: none"> • One outage caused by tree fall-in. <p>Previous Outages:</p> <p>One outage caused by tree fall-in.</p>	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Vegetation Management completed Q3 2019. Proposed for 2024.
<p>16</p> <p>North 23701</p> <p>Fuse Link 65K</p>	<p>9 Total Outages:</p> <p>Fourth Quarter Outages:</p> <ul style="list-style-type: none"> • Three outages caused by tree fall-in. <p>Previous Outages:</p> <ul style="list-style-type: none"> • One outage caused by tree fall-in. • One outage caused by equipment failure. • One outage caused by high winds. • Three outages cause unknown. 	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Vegetation Management completed Q4 2016. Proposed for 2021.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
<p>17 Manchester 4484 Breaker</p>	<p>4 Total Outages: Fourth Quarter Outages: <ul style="list-style-type: none"> • No outages. Previous Outages: <ul style="list-style-type: none"> • Two outages caused by equipment failure. • One outage caused by storm. • One outage cause unknown. </p>	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Failed substation equipment has been replaced.
<p>18 Valley 23781 Recloser R100</p>	<p>1 Total Outages: Fourth Quarter Outages: <ul style="list-style-type: none"> • One outage caused by tree fall-in. Previous Outages: <ul style="list-style-type: none"> • No outage </p>	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Vegetation Management completed Q4 2018. Proposed for 2023.
<p>19 Arsenal 23844 Recloser WR872</p>	<p>2 Total Outages: Fourth Quarter Outages: <ul style="list-style-type: none"> • One outage caused by tree fall-in. • One outage caused by wires wrapped. Previous Outages: <ul style="list-style-type: none"> • No outages. </p>	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Vegetation Management completed Q4 2016. Proposed for 2021.
<p>20 Sewickley 23631 Fuse Link 80E</p>	<p>6 Total Outages: Fourth Quarter Outages: <ul style="list-style-type: none"> • Two outages caused by tree fall-in. Previous Outages: <ul style="list-style-type: none"> • Four outages caused by tree fall-in. </p>	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Vegetation Management completed Q3 2017. Proposed for 2021.
<p>21 Universal 23732 Breaker</p>	<p>1 Total Outages: Fourth Quarter Outages: <ul style="list-style-type: none"> • No outages. Previous Outages: <ul style="list-style-type: none"> • One outage caused by equipment failure. </p>	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
<p>22</p> <p>Woodville 23679</p> <p>Recloser R100</p>	<p>Total Outages:</p> <p>Fourth Quarter Outages:</p> <ul style="list-style-type: none"> • One outage cause unknown. • One outage caused by tree fall-in. <p>Previous Outages:</p> <ul style="list-style-type: none"> • One outage caused by tree fall-in. 	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Vegetation Management completed Q2 2016. Proposed by Q4 2020.
<p>23</p> <p>Woodville 23680</p> <p>Breaker</p>	<p>2 Total Outages:</p> <p>Fourth Quarter Outages:</p> <ul style="list-style-type: none"> • No outages. <p>Previous Outages:</p> <ul style="list-style-type: none"> • One outage caused by tree fall-in. • One outage caused by high winds. 	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues.
<p>24</p> <p>Suffolk 4428</p> <p>Breaker</p>	<p>1 Total Outages:</p> <p>Fourth Quarter Outages:</p> <ul style="list-style-type: none"> • No outages. <p>Previous Outages:</p> <ul style="list-style-type: none"> • One outage caused by tree fall-in. 	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Vegetation Management completed Q1 2019. Proposed for 2023.
<p>25</p> <p>North 23707</p> <p>Fuse Link 15K</p>	<p>1 Total Outages:</p> <p>Fourth Quarter Outages:</p> <ul style="list-style-type: none"> • One outage caused by animal contact. <p>Previous Outages:</p> <ul style="list-style-type: none"> • No outages. 	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Vegetation management completed Q3 2016; Proposed for 2020.
<p>26</p> <p>Sewickley 23630</p> <p>Recloser WR601</p>	<p>3 Total Outages:</p> <p>Fourth Quarter Outages:</p> <ul style="list-style-type: none"> • Two outages caused by tree fall-in. <p>Previous Outages:</p> <ul style="list-style-type: none"> • One outage caused by tree fall-in. 	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Vegetation management completed Q3 2017; Proposed for 2021.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
<p>27</p> <p>Logans Ferry- U.S. Gypsum 22556</p> <p>Breaker</p>	<p>2 Total Outages:</p> <p>Fourth Quarter Outages:</p> <ul style="list-style-type: none"> • One outage caused by tree fall-in. <p>Previous Outages:</p> <ul style="list-style-type: none"> • One outage caused by tree fall-in. 	<ul style="list-style-type: none"> • Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Vegetation management completed Q4 2016; Proposed for 2020.

- (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.

2019 Transmission and Distribution Goals and Objectives

Program Project	Unit of Measurement	Target for 2019	YTD Actuals for 2019	Percent Complete
Communications Goals				
Communication Battery Maintenance	Batteries	117	117	100%
Overhead Distribution Goals				
Recloser Inspections	Circuits	130	131	101%
Pole Inspections	Poles	17945	18117	101%
OH Line Inspections	Circuits	130	131	101%
OH Transformer Inspections	Circuits	130	131	101%
Padmount & Below Grade Insp	Circuits	81	81	100%
Overhead Transmission Goals				
Helicopter Inspections	Number of Structures	576	576	100%
Ground Inspections	Number of Structures	370	370	100%
Substations Goals				
Circuit Breaker Maintenance ¹	Breakers	408	461	113%
Station Transformer Maintenance ²	Transformers	44	48	109%
Station Battery Maintenance ³	Batteries	906	903	100%
Station Relay Maintenance ⁴	Relays	865	996	115%
Station Inspections ⁵	Sites	1942	1907	98%
Underground Distribution Goals				
Manhole Inspections	Manholes	700	721	103%
Major Network Insp (Prot Relay)	Ntwk Protectors	94	97	103%
Minor Network Visual Inspection (Transformer/Protector/Vault)	Ntwk Transformers	572	694	121%
Underground Transmission Goals				
Pressurization and Cathodic Protection Plant Inspection	Work Orders	372	372	100%
Vegetation Management Goals				
Overhead Line Clearance	Circuit Overhead Miles	1300	1300	100%

¹ Breaker maintenance activities were opportunistically accelerated while performing other work on adjacent equipment in the same substation

² Transformer maintenance activities were opportunistically accelerated to replace desiccant and condition based work on load tap changers increased the total maintenance in 2019

³ Goal based on four inspections annually per battery; regulation requires three inspections annually. Compliance obligation achieved for all batteries

⁴ Relay maintenance activities were opportunistically performed due to testing relays that share a scheme, line position, bus position, or station

⁵ Eleven stations were retired in 2019 which accounts for the 2% variance

(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, 2019
Favorable/(Unfavorable)

	Total Actual	Total Budget	Variance
Customer Service	\$59,618,238	\$61,399,832	\$1,781,594
Human Resources	14,355,978	15,540,131	1,184,153
Operations/Operation Services	60,265,231	67,729,498	7,464,267
Technology	58,316,586	61,672,441	3,355,855
General Corporate*	44,509,969	36,273,901	(8,236,068)
Total	\$237,066,002	\$242,615,803	\$5,549,801

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

The O&M expense underspend for the twelve months ended December 31, 2019 is due to information technology project spend driven by higher allocation to capital of ongoing IT projects and vegetation management work, as well as and overall IT project favorability (Technology & Operations). Additionally, bad debt expense was lower than budget during 2019 (General Corporate). Taxes other than income were favorable to budget \$3.2 million primarily as a result of unfavorable revenues as well as sales tax refunds received during the year (General Corporate).

(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, 2019
Favorable/(Unfavorable)

	Total Actual	Total Budget	Variance
Customer Service	\$18,435,636	\$9,375,101	\$(9,060,535)
Human Resources	10,955,064	12,198,506	1,243,442
Operations/Operation Services	229,016,014	264,679,039	35,663,025
Technology	50,451,687	66,480,721	16,029,034
General Corporate*	32,929,179	31,233,951	(1,695,228)
Total	\$341,787,580	\$383,967,318	\$42,179,738

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

The capital spend underspend for the twelve months ended December 31, 2019 is attributable to lower than budgeted expenses associated with operations project scope changes and delays associated with regulatory approvals on certain projects as well as the timing of Operations and IT project spend (Technology and Operations). This favorability was partially offset by greater than expected storm restoration activity (Operations) and customer service project work allocated to capital (Customer Service).

(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).

2020 Transmission and Distribution Goals and Objectives

Program Project	Unit of Measurement	Target for Year 2020
Communications Goals		
Communication Battery Maintenance	Batteries	118
Overhead Distribution Goals		
Recloser Inspections	Circuits	121
Pole Inspections	Poles	17677
OH Line Inspections	Circuits	121
OH Transformer Inspections	Circuits	121
Padmount & Below Grade Insp	Circuits	76
Overhead Transmission Goals		
Helicopter Inspections	Number of Structures	11
Ground Inspections	Number of Structures	354
Substations Goals		
Circuit Breaker Maintenance	Breakers	364
Station Transformer Maintenance	Transformers	44
Station Battery Maintenance	Batteries	880
Station Relay Maintenance	Relays	1392
Station Inspections	Sites	1860
Underground Distribution Goals		
Manhole Inspections	Manholes	700
Major Network Insp (Prot Relay)	Network Protectors	94
Minor Network Visual Inspection (Transformer/Protector/Vault)	Network Transformers	572
Underground Transmission Goals		
Pressurization and Cathodic Protection Plant Inspection	Work Orders	372
Vegetation Management Goals		
Overhead Line Clearance	Circuit Overhead Miles	1300

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

	Total Budget
Customer Service	\$63,550,719
Human Resources	17,681,460
Operations/ Operation Services	66,334,388
Technology	57,225,210
General Corporate*	44,784,466
Total	\$249,576,243

*Includes Finance, Supply Chain, 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 FERC account.

	Total Budget
Customer Service	\$9,312,390
Human Resources	14,450,685
Operations/ Operation Services	327,124,041
Technology	39,629,826
General Corporate*	45,065,026
Total	\$435,581,968

*Includes Finance, Supply Chain, 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.