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M-2016-2522508

**Shelby A. Linton-Keddie**  
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October 31, 2018

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**Via Certified Mail**  
**7018 0360 0002 1824 5382**

PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

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

Re: **Duquesne Light Company**  
**Quarterly Electric Reliability Report –3rd Quarter 2018**

Dear Secretary Chiavetta:

Enclosed please find Duquesne Light Company's Quarterly Electric Reliability Report for the Third Quarter of 2018.

The report is submitted in two versions, proprietary and non-proprietary. The proprietary version in the enclosed sealed envelope contains all the information required by 52 Pa. Code § 57.195 and is marked as "Confidential." Duquesne Light Company respectfully requests that the proprietary version of the Quarterly Electric Reliability Report **not** be made available to the public.

If you have any questions regarding the information contained in this filing, please contact the undersigned or Audrey Waldock at 412-393-6334 or [awaldock@duqlight.com](mailto:awaldock@duqlight.com).

Sincerely,

Shelby A. Linton-Keddie  
Manager, State Regulatory Strategy  
And Senior Legal Counsel

Enclosure

cc (w/ redacted version):

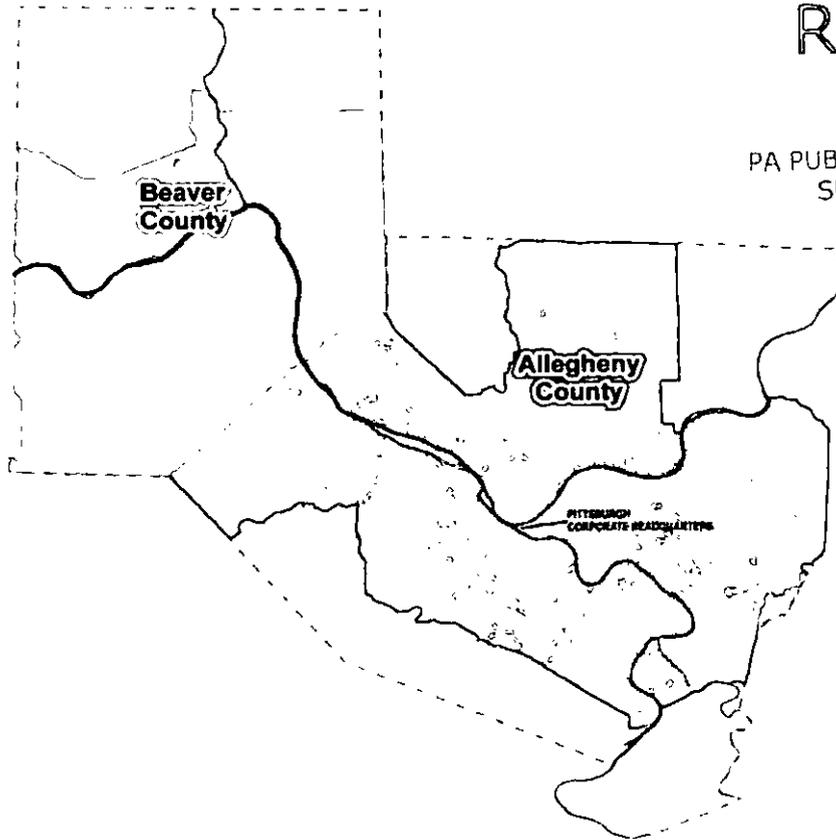
- Bureau of Technical Utility Services ([dsearfoorc@pa.gov](mailto:dsearfoorc@pa.gov), [jvanzant@pa.gov](mailto:jvanzant@pa.gov), [dawashko@pa.gov](mailto:dawashko@pa.gov))
- Office of Consumer Advocate ([TMcCloskey@paoca.org](mailto:TMcCloskey@paoca.org))
- Office of Small Business Advocate ([jorevan@pa.gov](mailto:jorevan@pa.gov), [swebb@pa.gov](mailto:swebb@pa.gov))



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***Duquesne Light Company  
Third Quarter 2018  
Electric Reliability Report  
to the  
Pennsylvania Public Utility Commission***

***October 31, 2018***

**57.195 Reporting Requirements**

**(e)(1)** *A description of each major event that occurred during the preceding quarter, including the time and duration of the event, the number of customers affected, the cause of the event and any modified procedures adopted in order to avoid or minimize the impact of similar events in the future.*

**No major events occurred during the third quarter of 2018.**

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

**RELIABILITY BENCHMARKS AND STANDARDS**  
 System Performance Measures with Major Events Excluded  
 Entire System

	<b>SAIDI</b>	<b>SAIFI</b>	<b>CAIDI</b>	<b>MAIFI</b>
<b>Benchmark</b>	126	1.17	108	*
<b>12 Month Standard</b>	182	1.40	130	*
<b>2018 3Q (Rolling 12 mo)</b>	95	0.82	116	*

\* 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**

Total KVA Interrupted for the Period	5,956,095 KVA
Total KVA-Minutes Interrupted:	690,810,457 KVA-Minutes
System Connected Load as of 9/30/18:	7,259,129 KVA

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

Circuits are evaluated based on a rolling twelve-month count of lockouts of protective devices (circuit breakers, reclosers, sectionalizers and line fuses) and on total accumulated KVA-Minutes of customer outage time. Circuits that experience multiple lockouts for a device in combination with high total accumulated KVA-Minutes of customer outage time in each quarterly rolling twelve-month period are identified and the top 5% are reported as Worst-Performing Circuits.

The list of Worst-Performing Circuits is ranked first by the number of device lockouts from highest to lowest and then by the number of KVA-Minutes of outage experienced by customers on these circuits (highest to lowest). This places a higher priority on circuits with repeat outages affecting customers (SAIFI) while also focusing on outage duration for customers on these circuits (SAIFI and SAIDI). Prior Worst Performing Circuits that have not seen recent outages fall to a lower priority within the group, but can remain on the list for monitoring until other circuits replace them.

While repairs are made as quickly as possible following every customer outage, circuits that appear on the worst performing circuits list are targeted for more extensive remediation based on a detailed review of historical outage records looking at root cause problems, field evaluations and engineering analysis. Project scopes developed as a result of this analysis are incorporated into the Company's Work Plan for engineering, design and construction. Since the focus is on reducing future customer outage duration and not just outage frequency, special attention is given to establishing/optimizing sectionalizing switch locations and alternate feeds to problem-prone areas of circuits and where possible replacing or eliminating equipment that has historically required lengthy repair times as well as a high failure rates.

At the end of each quarter all previously identified circuits are reviewed to verify that past remediation efforts are working and to look for new reliability issues that may be developing. Serious new reliability problems are addressed immediately without waiting additional periods to collect information. This analysis method provides for timely review of circuit performance by in-house staff and it adapts to the dynamic nature of Duquesne's distribution system.

**Special Note:** *Because of sophisticated protection and remote automation technologies that the Company uses on its distribution circuits, not all customers on a circuit identified as a worst performing circuit actually experience significant reliability issues. Circuit problems are generally isolated to one load block of a circuit in less than five minutes with downstream customers only experiencing short momentary operations. Customers upstream of a circuit problem may not even experience a momentary outage. Therefore, many customers on a circuit identified as a poor performer have actually had good reliability.*

See Attachment A for a list of worst-performing circuits showing feeder device lockouts and reliability index values associated with each circuit.

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

**Third Quarter 2018 Rolling 12 Month Circuit Data**

<b>Rank, Circuit Name, Device</b>	<b>Outages</b>	<b>Remedial Actions Planned or Taken</b>
<p>1  Liberty 4928  Breaker</p>	<p>6 Total Outages:</p> <p>Third Quarter Outages:</p> <ul style="list-style-type: none"> <li>• One outage was caused by landslide, washout, or cave-in, during a storm.</li> <li>• One outage was caused by lighting, during a storm.</li> <li>• The cause of one outage was unknown, during a storm.</li> <li>• One outage was caused by tree fall-in, during a storm.</li> </ul> <p>Previous Outages:</p> <ul style="list-style-type: none"> <li>• One outage was caused by equipment failure.</li> <li>• One outage was caused by broken pole, during a storm.</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent repairs were made following each outage as necessary.</li> <li>• The Company will continue to monitor this circuit for reliability issues.</li> <li>• Select Vegetation Management performed, Routine VM proposed 2019.</li> </ul>
<p>2  Traverse Run 23770  Breaker</p>	<p>5 Total Outages:</p> <p>Third Quarter Outages:</p> <ul style="list-style-type: none"> <li>• One outage was caused by tree fall-in.</li> <li>• One outage was caused by contact with company equipment by vehicle.</li> <li>• One outage was caused by phases wrapping together to create a short, cause unknown.</li> </ul> <p>Previous Outages:</p> <ul style="list-style-type: none"> <li>• One outage was caused by tree fall-in.</li> <li>• One outage was caused by equipment installation failure.</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent repairs were made following each outage as necessary.</li> <li>• Routine Vegetation Management last performed 2016 proposed 2020.</li> <li>• The Company will continue to monitor this circuit for reliability issues.</li> </ul>

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
<p>3</p> <p>Oakland 23744</p> <p>Sectionalizer WA392</p>	<p>5 Total Outages:</p> <p>Third Quarter Outages:</p> <ul style="list-style-type: none"> <li>• One outage was caused by phases wrapping together to create a short, during a storm</li> </ul> <p>Previous Outages:</p> <ul style="list-style-type: none"> <li>• One outage was caused by equipment failure.</li> <li>• Two outages was caused by tree fall-in.</li> <li>• The cause of one outage was unknown, during a storm.</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent repairs were made following each outage as necessary.</li> <li>• The Company will continue to monitor this circuit for reliability issues.</li> </ul>
<p>4</p> <p>Midland-Cooks Ferry 22869</p> <p>Breaker</p>	<p>5 Total Outages:</p> <p>Third Quarter Outages:</p> <ul style="list-style-type: none"> <li>• One outage was caused by burned down conductor.</li> <li>• One outage was caused by phases wrapping together to create a short.</li> <li>• One outage was caused by lightning, during a storm</li> </ul> <p>Previous Outages:</p> <ul style="list-style-type: none"> <li>• The cause of two outages were unknown.</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent repairs were made following each outage as necessary.</li> <li>• The Company will continue to monitor this circuit for reliability issues.</li> <li>• Vegetation Management completed Q4 2017.</li> <li>• Continue to monitor for reliability concerns.</li> <li>• Protection Engineering will check this circuit for potential coordination issues by end of Q4 2018.</li> </ul>
<p>5</p> <p>Squaw Run 4279</p> <p>Fuse Link 40K</p>	<p>5 Total Outages:</p> <p>Third Quarter Outages:</p> <ul style="list-style-type: none"> <li>• One outage was caused by tree fall-in, during a storm.</li> </ul> <p>Previous Outages:</p> <ul style="list-style-type: none"> <li>• The cause of two outages were unknown.</li> <li>• Two outages were caused by tree fall-in.</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent repairs were made following each outage as necessary.</li> <li>• The Company will continue to monitor this circuit for reliability issues.</li> <li>• Routine Vegetation management scheduled for 2018.</li> </ul>

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
<p>6 Valley-Morado No.2 22860 Breaker</p>	<p>4 Total Outages:</p> <p>Third Quarter Outages:</p> <ul style="list-style-type: none"> <li>• One outage was caused by tree fall-in.</li> <li>• The cause of one outage was unknown, during a storm.</li> <li>• One outage was caused by equipment failure, during a storm.</li> </ul> <p>Previous Outages:</p> <ul style="list-style-type: none"> <li>• The cause of one outage was unknown.</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent repairs were made following each outage as necessary.</li> <li>• The Company will continue to monitor this circuit for reliability issues.</li> <li>• Routine Vegetation Management last performed 2016 proposed 2021.</li> </ul>
<p>7 Chess 23688 Recloser ER863</p>	<p>4 Total Outages:</p> <p>Third Quarter Outages:</p> <ul style="list-style-type: none"> <li>• Two outages were caused by tree fall-in, one during a storm.</li> </ul> <p>Previous Outages:</p> <ul style="list-style-type: none"> <li>• Two outages were caused by tree fall-in.</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent repairs were made following each outage as necessary.</li> <li>• The Company will continue to monitor this circuit for reliability issues.</li> <li>• Routine Vegetation Management last performed 2013 scheduled for 2018.</li> </ul>
<p>8 Raccoon 23620 Breaker</p>	<p>4 Total Outages:</p> <p>Third Quarter Outages:</p> <ul style="list-style-type: none"> <li>• One outage was caused by tower collapse, during a storm.</li> <li>• One outage was caused by tree fall-in, during a storm.</li> </ul> <p>Previous Outages:</p> <ul style="list-style-type: none"> <li>• Two outages were caused by tree fall-in, one during a storm.</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent repairs were made following each outage as necessary.</li> <li>• The Company will continue to monitor this circuit for reliability issues.</li> <li>• Routine Vegetation Management last performed 2014 proposed 2019.</li> </ul>

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
<p>9</p> <p>Logans Ferry 23921</p> <p>Fuse Link 40K</p>	<p>4 Total Outages:</p> <p>Third Quarter Outages:</p> <ul style="list-style-type: none"> <li>• One outage was caused by tree fall-in.</li> <li>• The cause of one outage was unknown, during a storm.</li> </ul> <p>Previous Outages:</p> <ul style="list-style-type: none"> <li>• The cause of one outage was unknown.</li> <li>• One outage was caused by tree fall-in.</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent repairs were made following each outage as necessary.</li> <li>• The Company will continue to monitor this circuit for reliability issues</li> <li>• Routine Vegetation Management last performed in 2016 and is proposed for 2020.</li> </ul>
<p>10</p> <p>Pine Creek 23714</p> <p>Sectionalizer WA609</p>	<p>4 Total Outages:</p> <p>Third Quarter Outages:</p> <ul style="list-style-type: none"> <li>• One outage was caused by equipment failure.</li> <li>• One outage was caused by tree fall-in, during a storm.</li> </ul> <p>Previous Outages:</p> <ul style="list-style-type: none"> <li>• Two outages were caused by tree fall-in, during a storm.</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent repairs were made following each outage as necessary.</li> <li>• The Company will continue to monitor this circuit for reliability issues.</li> <li>• Routine vegetation maintenance was last performed in 2013 and is scheduled for 2018.</li> <li>• This circuit was reviewed for coordination issues by Protection Engineering. No issues were found.</li> </ul>
<p>11</p> <p>Pine Creek 23710</p> <p>Recloser 600</p>	<p>4 Total Outages:</p> <p>Third Quarter Outages:</p> <ul style="list-style-type: none"> <li>• The cause of two outages were unknown, during a storm.</li> </ul> <p>Previous Outages:</p> <ul style="list-style-type: none"> <li>• One outage was caused by tree fall-in.</li> <li>• The cause of one outage was unknown.</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent repairs were made following each outage as necessary.</li> <li>• The Company will continue to monitor this circuit for reliability issues.</li> </ul>

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
<p>12 Pine Creek 23712  Recloser WR610</p>	<p>4 Total Outages:</p> <p>Third Quarter Outages:</p> <ul style="list-style-type: none"> <li>• One outage was caused by tree fall-in, during a storm.</li> </ul> <p>Previous Outages:</p> <ul style="list-style-type: none"> <li>• Three outages were caused by tree fall-in.</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent repairs were made following each outage as necessary.</li> <li>• The Company will continue to monitor this circuit for reliability issues.</li> <li>• Routine vegetation maintenance was last performed in 2013 and is scheduled for 2018.</li> <li>• Protection Engineering will check this circuit for potential coordination issues by end of Q4 2018.</li> </ul>
<p>13 Midland 23640  Recloser 200</p>	<p>4 Total Outages:</p> <p>Third Quarter Outages:</p> <ul style="list-style-type: none"> <li>• No outages.</li> </ul> <p>Previous Outages:</p> <ul style="list-style-type: none"> <li>• Three outages were caused by tree fall-in, one during a storm.</li> <li>• One outage was due to down wire, during a storm.</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent repairs were made following each outage as necessary.</li> <li>• The Company will continue to monitor this circuit for reliability issues.</li> <li>• Routine Vegetation Management last performed in 2013 and is scheduled for 2018.</li> </ul>
<p>14 Pine Creek 23713  Recloser WR1004</p>	<p>4 Total Outages:</p> <p>Third Quarter Outages:</p> <ul style="list-style-type: none"> <li>• No outages.</li> </ul> <p>Previous Outages:</p> <ul style="list-style-type: none"> <li>• The cause of four outages were unknown.</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent repairs were made following each outage as necessary.</li> <li>• The Company will continue to monitor this circuit for reliability issues.</li> </ul>
<p>15 Carrick 23890  Fuse Link 65K</p>	<p>3 Total Outages:</p> <p>Third Quarter Outages:</p> <ul style="list-style-type: none"> <li>• The cause of one outage was unknown.</li> </ul> <p>Previous Outages:</p> <ul style="list-style-type: none"> <li>• One outage was caused by tree fall-in.</li> <li>• The cause of one outage was unknown.</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent repairs were made following each outage as necessary.</li> <li>• The Company will continue to monitor this circuit for reliability issues.</li> <li>• Routine Vegetation Management last performed in 2014 and is scheduled for 2018.</li> </ul>

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
<p>16</p> <p>Arsenal 23841</p> <p>Fuse Link 100K</p>	<p>3 Total Outages:</p> <p>Third Quarter Outages:</p> <ul style="list-style-type: none"> <li>• One outage was caused by equipment failure.</li> <li>• The cause of one outage was unknown, during a storm.</li> <li>• One outage was caused by phases wrapping together to create a short, during a high wind event.</li> </ul> <p>Previous Outages:</p> <ul style="list-style-type: none"> <li>• No outages.</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent repairs were made following each outage as necessary.</li> <li>• The Company will continue to monitor this circuit for reliability issues.</li> </ul>
<p>17</p> <p>Montour 23670</p> <p>Breaker</p>	<p>2 Total Outages:</p> <p>Third Quarter Outages:</p> <ul style="list-style-type: none"> <li>• One outage was caused by high winds.</li> <li>• One outage was caused by equipment failure.</li> </ul> <p>Previous Outages:</p> <ul style="list-style-type: none"> <li>• No outages.</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent repairs were made following each outage as necessary.</li> <li>• The Company will continue to monitor this circuit for reliability issues.</li> </ul>
<p>18</p> <p>Mt Nebo 23871</p> <p>Fuse Link 80E</p>	<p>2 Total Outages:</p> <p>Third Quarter Outages:</p> <ul style="list-style-type: none"> <li>• The cause of one outage was unknown, during a storm.</li> <li>• One outage was caused by tree fall-in.</li> </ul> <p>Previous Outages:</p> <ul style="list-style-type: none"> <li>• No outages.</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent repairs were made following each outage as necessary.</li> <li>• The Company will continue to monitor this circuit for reliability issues.</li> <li>• Routine Vegetation Management last performed in 2017, proposed in 2021.</li> </ul>

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
19  Arsenal 23842  Breaker	2 Total Outages:  Third Quarter Outages: <ul style="list-style-type: none"> <li>• The cause of one outage was unknown</li> <li>• One outage was caused by equipment failure, during a storm.</li> </ul> Previous Outages: <ul style="list-style-type: none"> <li>• No outages.</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent repairs were made following each outage as necessary.</li> <li>• The Company will continue to monitor this circuit for reliability issues.</li> </ul>
20  Universal 23733  Recloser 100	2 Total Outages:  Third Quarter Outages: <ul style="list-style-type: none"> <li>• The cause of one outage was unknown, during a storm.</li> <li>• One outage was caused by tree fall-in.</li> </ul> Previous Outages: <ul style="list-style-type: none"> <li>• No outages.</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent repairs were made following each outage as necessary.</li> <li>• The Company will continue to monitor this circuit for reliability issues.</li> <li>• Routine Vegetation Management last performed in 2013 and is scheduled for 2018.</li> </ul>
21  Woodville 23683  Fuse Link 15K	2 Total Outages:  Third Quarter Outages: <ul style="list-style-type: none"> <li>• One outage was caused by tree fall-in.</li> </ul> Previous Outages: <ul style="list-style-type: none"> <li>• One outage was caused by tree fall-in.</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent repairs were made following each outage as necessary.</li> <li>• The Company will continue to monitor this circuit for reliability issues.</li> <li>• Routine Vegetation Management last performed in 2016, scheduled for 2021.</li> </ul>
22  Woodville 23680  Fuse Link 80E	2 Total Outages:  Third Quarter Outages: <ul style="list-style-type: none"> <li>• No outages.</li> </ul> Previous Outages: <ul style="list-style-type: none"> <li>• Two outages were caused by tree fall-in.</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent repairs were made following each outage as necessary.</li> <li>• The Company will continue to monitor this circuit for reliability issues.</li> <li>• Routine Vegetation Management last performed in 2016, scheduled for 2020.</li> </ul>

Duquesne Light Company  
Third Quarter 2018 Electric Reliability Report

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
<p>23</p> <p>B.I.-McKees Rocks Forgings 22026</p> <p>Breaker</p>	<p>2 Total Outages:</p> <p>Third Quarter Outages:</p> <ul style="list-style-type: none"> <li>• No outages.</li> </ul> <p>Previous Outages:</p> <ul style="list-style-type: none"> <li>• One outage was caused by equipment failure.</li> <li>• One outage was caused by contact with company equipment by vehicle.</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent repairs were made following each outage as necessary.</li> <li>• The Company will continue to monitor this circuit for reliability issues.</li> </ul>
<p>24</p> <p>Wilson 23863</p> <p>Recloser 600</p>	<p>2 Total Outages:</p> <p>Third Quarter Outages:</p> <ul style="list-style-type: none"> <li>• No outages.</li> </ul> <p>Previous Outages:</p> <ul style="list-style-type: none"> <li>• The cause of two outages were unknown.</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent repairs were made following each outage as necessary.</li> <li>• The Company will continue to monitor this circuit for reliability issues.</li> </ul>
<p>25</p> <p>Highland 23821</p> <p>Fuse Link 40K</p>	<p>2 Total Outages:</p> <p>Third Quarter Outages:</p> <ul style="list-style-type: none"> <li>• No outages.</li> </ul> <p>Previous Outages:</p> <ul style="list-style-type: none"> <li>• One outage was caused by equipment failure.</li> <li>• The cause of one outage was unknown.</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent repairs were made following each outage as necessary.</li> <li>• The Company will continue to monitor this circuit for reliability issues.</li> </ul>
<p>26</p> <p>Crescent 23662</p> <p>Recloser WR716</p>	<p>2 Total Outages:</p> <p>Third Quarter Outages:</p> <ul style="list-style-type: none"> <li>• No outages.</li> </ul> <p>Previous Outages:</p> <ul style="list-style-type: none"> <li>• One outage was caused by equipment failure.</li> <li>• The cause of one outage was unknown.</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent repairs were made following each outage as necessary.</li> <li>• The Company will continue to monitor this circuit for reliability issues.</li> </ul>

Duquesne Light Company  
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Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
<p>27</p> <p>Arsenal 23840</p> <p>Fuse Link 80E</p>	<p>1 Total Outage:</p> <p>Third Quarter Outages:</p> <ul style="list-style-type: none"> <li>• One outage was caused by tree fall-in, during a storm.</li> </ul> <p>Previous Outages:</p> <ul style="list-style-type: none"> <li>• No outages.</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent repairs were made following each outage as necessary.</li> <li>• The Company will continue to monitor this circuit for reliability issues.</li> <li>• Routine Vegetation Management scheduled for 2018.</li> </ul>

**(e)(5)** *A rolling 12-month breakdown and analysis of outage causes during the preceding quarter, including the number and percentage of service outages, the number of customers interrupted, and customer interruption minutes categorized by outage cause such as equipment failure, animal contact, tree related, and so forth. Proposed solutions to identified service problems shall be reported.*

Proposed solutions to identified service problems are listed in Section (e)(4) above.

**October 1, 2017 through September 30, 2018 – No PUC Major Event Exclusions**

<b>CAUSE</b>	<b>NO. OF OUTAGES</b>	<b>OUTAGE PERCENTAGE</b>	<b>KVA TOTAL</b>	<b>KVA PERCENTAGE</b>	<b>KVA-MINUTE TOTAL</b>	<b>KVA-MINUTE PERCENTAGE</b>
STORMS	488	14%	866,281	15%	145,243,379	21%
TREES	20	1%	23,527	1%	921,342	1%
TREES FALLING	1,026	30%	1,686,928	28%	229,617,374	33%
EQUIP FAILURES	848	25%	1,600,407	27%	173,453,157	25%
OVERLOADS	165	5%	161,577	3%	12,096,163	2%
VEHICLES	144	4%	415,719	7%	49,191,408	7%
OTHER	761	21%	1,201,656	19%	80,287,634	11%
<b>TOTALS</b>	<b>3,452</b>	<b>100%</b>	<b>5,956,095</b>	<b>100%</b>	<b>690,810,457</b>	<b>100%</b>

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

2018 Transmission and Distribution Goals and Objectives							
Program Project	Unit of Measurement	Target for 2018 3Q	Actual for 2018 3Q	3Q Percent Complete	Targets for Year 2018	Actual YTD for 2018	Year End % Complete
<b>Communications Goals</b>							
Communication Battery Maintenance	Battery Tasks	31	20	65%	124	73	59%
<b>Overhead Distribution Goals</b>							
Recloser Inspections	Circuits	50	42	84%	130	113	87%
Pole Inspections <sup>1</sup>	Poles	7,455	7,176	96%	17,945 <sup>1</sup>	7,312	41%
OH Line Inspections	Circuits	50	42	84%	130	113	87%
OH Transformer Inspections	Circuits	50	42	84%	130	113	87%
Padmount & Below Grade Insp	Circuits	19	0	0%	80	65	81%
<b>Overhead Transmission Goals</b>							
Helicopter Inspections	Number of Structures	0	0	NA	533	755	142%
Ground Inspections	Number of Structures	0	61	NA	383	338	88%
<b>Substations Goals</b>							
Circuit Breaker Maintenance	Breaker Tasks	180	103	57%	610	442	72%
Station Transformer Maintenance	Transformer Tasks	17	4	24%	52	83	160%
Station Battery Maintenance	Battery Tasks	247	195	79%	988	697	71%
Station Relay Maintenance	Relay Tasks	369	366	99%	1,391	1,249	90%
Station Inspections <sup>2</sup>	Site Visits	500 <sup>2</sup>	500	100%	2,012 <sup>2</sup>	1,514	75%
<b>Underground Distribution Goals</b>							
Manhole Inspections	Manholes	180	152	84%	700	492	70%
Major Network Insp (Prot Relay)	Network Protectors	45	17	38%	92	87	95%
Minor Network Visual Inspection (Transformer/Protector/Vault)	Network Transformers	144	33	23%	576	583	101%
<b>Underground Transmission Goals</b>							
Pressurization and Cathodic Protection Plant Inspection	Work Orders	93	94	101%	372	287	77%
<b>Vegetation Management Goals</b>							
Overhead Line Clearance	Circuit Overhead Miles	320	246	77%	1,300	952	73%
<b>Total Units</b>		<b>9,750</b>	<b>9,093</b>	<b>93%</b>	<b>27,548</b>	<b>15,568</b>	<b>57%</b>

<sup>1</sup> The total number of poles have been updated to reflect the figures submitted in the 2018 I&M Plan.

<sup>2</sup> The total number of substations have been updated to reflect the figures submitted in the 2018 I&M Plan. The 3Q inspection goal was updated to account for the change in total number of substations

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

Budget Variance Recap – O&M Expenses  
 For the Three Months Ending September 30, 2018  
 Favorable/(Unfavorable)

	<b>Total Actual</b>	<b>Total Budget</b>	<b>Variance</b>
<b>Customer Service</b>	20,698,633	17,194,384	(3,504,249)
<b>Human Resources</b>	4,059,122	4,351,995	292,873
<b>Operations/Operation Services</b>	14,417,872	15,807,596	1,389,724
<b>Technology</b>	12,872,231	12,761,129	(111,102)
<b>General Corporate*</b>	7,396,730	11,928,995	4,532,265
<b>Total</b>	<b>59,444,588</b>	<b>62,044,099</b>	<b>2,599,511</b>

\*Includes Finance, Office of General Counsel, and Senior Management costs

Budget Variance Recap – O&M Expenses  
 For the Nine Months Ending September 30, 2018  
 Favorable/(Unfavorable)

	<b>Total Actual</b>	<b>Total Budget</b>	<b>Variance</b>
<b>Customer Service</b>	49,588,217	48,059,321	(1,528,896)
<b>Human Resources</b>	10,863,082	12,122,190	1,259,108
<b>Operations/Operation Services</b>	47,206,923	47,946,386	739,463
<b>Technology</b>	38,880,133	38,552,215	(327,918)
<b>General Corporate*</b>	34,183,103	37,375,018	3,191,915
<b>Total</b>	<b>180,721,458</b>	<b>184,055,130</b>	<b>3,333,672</b>

\*Includes Finance, Office of General Counsel, and Senior Management costs

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

**Budget Variance Recap -Capital**  
 For the Three Months Ending September 30, 2018  
 Favorable/(Unfavorable)

	<b>Total Actual</b>	<b>Total Budget</b>	<b>Variance</b>
<b>Customer Service</b>	3,078,171	2,678,538	(399,633)
<b>Human Resources</b>	3,208,252	3,408,319	200,067
<b>Operations/Operation Services</b>	63,362,868	60,820,563	(2,542,305)
<b>Technology</b>	13,290,276	15,273,016	1,982,740
<b>General Corporate*</b>	10,673,664	7,992,716	(2,680,948)
<b>Total</b>	93,613,231	90,173,152	(3,440,079)

\*Includes Finance, Office of General Counsel, and Senior Management costs

**Budget Variance Recap - Capital**  
 For the Nine Months Ending September 30, 2018  
 Favorable/(Unfavorable)

	<b>Total Actual</b>	<b>Total Budget</b>	<b>Variance</b>
<b>Customer Service</b>	7,580,161	8,030,619	450,458
<b>Human Resources</b>	8,026,280	9,177,611	1,151,331
<b>Operations/Operation Services</b>	160,770,289	176,559,936	15,789,647
<b>Technology</b>	59,093,001	44,457,948	(14,635,053)
<b>General Corporate*</b>	31,152,715	24,032,497	(7,120,218)
<b>Total</b>	266,622,446	262,258,611	(4,363,835)

\*Includes Finance, Office of General Counsel, and Senior Management costs

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

<b>Job Title</b>	<b>Number of Employees</b>
Telecom Splicer/Trouble Tech	5
Electronic Technician	18
Telecom Technician	3
<b>Total Telecom</b>	<b>26</b>
Electrical Equipment Technician	38
Protection & Control Technician	27
Yard Group Leader	3
Rigger	6
Laborer	3
<b>Total Substation</b>	<b>77</b>
UG Splicer	38
UG Cable Inspector	10
Cable Tester	1
Network Operator	13
Equipment Material Handler	1
<b>Total Underground</b>	<b>63</b>
Apprentice T&D	51
Equipment Attendant	0
Lineworker	151
Service Crew Leader	3
Equipment Material Handler	4
<b>Total Overhead</b>	<b>209</b>
Right of Way Agent	4
Surveyor	4
<b>Total Real Estate</b>	<b>8</b>
<b>Total Street Light Changer</b>	<b>6</b>
Engineering Technician	33
GIS Technician	3
T&D Mobile Worker	2
Test Technician, Mobile	6
<b>Total Engineering</b>	<b>44</b>
Senior Operator Apprentice	3
Senior Operator	26
Traveling Operator	1
Troubleshooter	11
<b>Total Traveling Operator/Troubleshooter</b>	<b>41</b>
<b>Total Switching Dispatcher</b>	<b>16</b>
<b>Total Employees</b>	<b>490</b>

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

**CONFIDENTIAL INFORMATION**

**3<sup>rd</sup> Quarter 2018**

Contractor Dollars:	\$redacted
Contractor Hours:	redacted

**YTD 2018**

Contractor Dollars:	\$ redacted
Contractor Hours:	redacted

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

**CONFIDENTIAL INFORMATION**

**Call-Out Acceptance Rate –3rd Quarter 2018**

REDACTED

**Amount of Time it Takes to Obtain the Necessary Personnel – 3<sup>rd</sup> Quarter 2018**

REDACTED

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

Matthew G. Bucek – General Manager, Asset Management  
(412) 393-8878, [mbucek@duqlight.com](mailto:mbucek@duqlight.com)

Jaime Bachota – Assistant Controller, Accounting & Financial Reporting  
(412) 393-1122, [jbachota@duqlight.com](mailto:jbachota@duqlight.com)

# RECEIVED

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PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

Duquesne Light Company  
Third Quarter 2018 Electric Reliability Report

### ATTACHMENT A

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

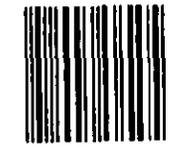
Rank	Circuit No	Circuit Name	Feeder Device	Device Lockouts	Last Lockout	Ckt KVA	Total KVA Interrupted	Total KVA-Minutes	SAIDI	SAIFI	CAIDI
1	4928	Liberty	BKR	6	2018-09-10	6363	38584	6207671	975.588	6.06380	160.887
2	23770	Traverse Run	BKR	5	2018-09-27	19460	60117	6252474	321.150	3.08783	104.005
3	23744	Oakland	WR393	5	2018-09-21	26817	39688	8484324	316.378	1.47995	213.775
4	22869	Midland-Cooks Ferry	BKR	5	2018-09-05	37666	82053	8630149	229.123	2.17843	105.177
5	4279	Squaw Run	40K	5	2018-07-03	3639	16220	6998449	1923.17	4.45726	431.470
6	22860	Valley-Morado No 2	BKR	4	2018-09-18	11185	52943	8457512	756.147	4.73339	159.747
7	23688	Chess	ER803	4	2018-09-10	26214	87975	10694456	407.967	3.35603	121.562
8	23620	Raccoon	BKR	4	2018-09-10	24741	61241	9778399	395.230	2.47528	159.670
9	23921	Logans Ferry	40K	4	2018-08-01	32875	55187	6552754	199.323	1.67869	118.737
10	23714	Pine Creek	WA609	4	2018-07-09	22571	94266	21839683	967.599	4.17642	231.681
11	23710	Pine Creek	600	4	2018-07-06	31769	63981	13037466	410.383	2.01394	203.770
12	23712	Pine Creek	WR610	4	2018-07-04	19499	93123	14414458	739.240	4.77578	154.789
13	23640	Midland	100	4	2018-05-20	28675	64535	6829591	238.172	2.25056	105.827
14	23713	Pine Creek	WR1004	4	2018-01-27	28333	61917	6169936	217.765	2.18533	99.6484
15	23890	Carrick	65K	3	2018-07-15	24616	28755	6197113	251.751	1.16814	215.514
16	23841	Arsenal	100K	3	2018-07-07	28772	42865	13740205	477.554	1.48981	320.546
17	23670	Montour	BKR	2	2018-09-26	29540	75503	6876415	232.783	2.55595	91.0747
18	23871	Mt Nebo	80E	2	2018-09-09	17687	28592	6370634	360.187	1.61655	222.811
19	23842	Arsenal	BKR	2	2018-08-16	26395	77553	7401584	280.416	2.93817	95.4390
20	23733	Universal	100	2	2018-08-13	30158	84652	7562816	250.773	2.80695	89.3400
21	23683	Woodville	15K	2	2018-07-09	32646	52921	9897023	303.161	1.62105	187.015
22	23680	Woodville	80E	2	2018-06-27	27442	46939	6319121	230.271	1.49183	154.354
23	22026	B1-McKees Rocks Forgings No 2	BKR	2	2018-05-25	10192	15040	6308673	618.982	1.47566	419.459
24	23863	Wilson	600	2	2018-05-01	30657	24339	5916297	192.983	0.79391	243.078
25	23821	Highland	40K	2	2018-04-12	24427	34994	9632736	394.347	1.43259	275.268
26	23662	Crescent	WR716	2	2018-02-15	25392	73399	6301499	248.168	2.89063	85.8526
27	23840	Arsenal	80E	1	2018-09-10	35725	35414	7155206	200.285	0.99129	202.044



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State Regulatory Coordinator  
411 Seventh Avenue, 15-7  
Pittsburgh, PA 15219

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Pennsylvania Public Utility Commission  
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Harrisburg, PA 17120